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THE EMIR OF BOKHARA AND HIS COUNTRY

THE EMIR OF BOKHARA AND HIS COUNTRY

JOURNEYS AND STUDIES IN BOKHARA

(WITH A CHAPTER ON MY VOYAGE ON THE AMU DARYA TO KHIVA)

BY

58435
a c.

O. OLUFSEN

PROFESSOR, SECRETARY TO THE ROYAL DANISH GEOGRAPHICAL SOCIETY
COMMANDER OF THE FIRST AND SECOND DANISH PAMIR EXPEDITIONS
EX-LIEUTENANT OF THE DANISH ARMY

1679

WITH A MAP OF BOKHARA AND NUMEROUS ILLUSTRATIONS

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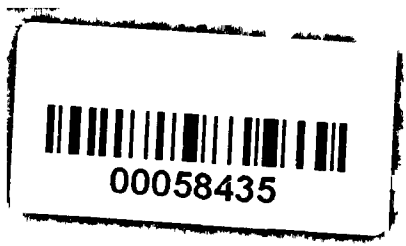

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PREFACE

THE *following work on Bokhara to which I have given the title "Journeys and Studies in Bokhara", and in which I have endeavoured to give a survey of this country, is one of the results of my journeys in Mid and Central Asia in 1896—97 and 1898—99. It does not claim to be an exhaustive work on this interesting Oriental realm, but I have thought that some of the information given here might contribute to the knowledge of these regions which have been too little explored hitherto; even if Bokhara is now the vassal state of Russia, it has up to our own time gone on in its own old-fashioned ways, and the European influence perceptible here and there is but superficial.*

As I have wished that some sections might be read independently of the others, I hope the reader will excuse some repetitions now and then.

The details which appear in the book have been gathered by autopsy and by questioning Bokharan officials and other natives whom I met on my journeys, also Russian officers, especially the Finnish captain Kivekaes who has travelled through Pamir in all directions for many years. I spoke Russian and Usbegic, so that interpreters were only employed for the Tadjik language. I have not treated of Garan and Vakhan in this book, as I have given a detailed description of these provinces in my book

Pages

CHAPTER X

Tombs ..... 401—432

CHAPTER XI

Amusements and Games ..... 433—440

CHAPTER XII

Diseases, the Sick, Beggars, Physicians, Dentists, Medicine-men, Apothecaries ..... 441—451

CHAPTER XIII

Articles of Food and Narcotics ..... 452—466

CHAPTER XIV

Dress ..... 467—485

CHAPTER XV

Agriculture, Gardening, Cultivated Plants ..... 486—501

CHAPTER XVI

Towns ..... 502—573

CHAPTER XVII

The Emir (Government and Officials) ..... 574—582

ILLUSTRATIONS

	Page
Remnants of a Chinese tower near the lake of Yashilkul	11
Women from Khorok	71
The Russian fort at Khorok	72
My camp in a garden at Sashar	73
One of my Shugnan Djigits	75
Kishlak in Roshan. Oxen thrashing corn	77
Types of men from Roshan	78
The river Pandsh at the entrance of Kalai Vamar	79
The castle of Kalai Vamar	81
The castle of Kalai Vamar in winter	83
Ishau Kul with his sons outside the castle of Kalai Vamar	85
The Beg Ishan Kul in his pavilion	87
Barbacan in the castle of Kalai Vamar	89
Odudy Glacier	91
Descent towards the north from the Odudy Glacier	93
My tent in the moraines on the south side of the Vandsh glacier	95
Part of the First Danish Pamir Expedition on the Vandsh glacier	97
The source of the tributary Âb-i-Vandsh	99
My camp-tent under the shade of the willows at Kalai Vandsh	101
The Beg at Kalai Vandsh	103
The First Danish Pamir Expedition crossing a gallery	107
Summer hut on a bridge	109
Conical summer hut on the roof of a house at Dyarf	111
My tent in the Beg's garden at Kalai Khumb	113
Russian frontier guard and custom-house officers at Kalai Khumb	115
The Parade at Kalai Khumb	117
The bridge across the river Khingau at Childarra	119
Part of the Khingau valley	121
The kishlak of Childarra	123
The Beg's castle at Garm	127
The Beg at Garm	129
Outlook from Hâït towards the south-west	131
The Beg's castle at Hâït	133
At "Kavakly" on the left bank of the Amu Darya	147
"Shâr Togai". Copse on the left bank of the Amu Darya	149
Between Hazarasp and the Amu Darya	151

Page

Wood of tamarisks on the left bank of the Amu Darya 153
"Togai" (wood) on the right bank of the Amu Darya near Kiptshak 155
"Togai" (wood) on the right bank of the Amu Darya near Kiptshak 157
Salt desert near Bokhara 163
Sandy, formerly cultivated region near Bokhara ("rehsar") 165
Desert near Bokhara 167
Our gema on the Amu Darya 175
Ruins of the castle of Kisht Kala on the Amu Darya 183
Part of the canal from the Amu Darya to Khiva 189
Part of the canal from the Amu Darya to the town of Khiva 190
Bridge across the canal from the Amu Darya to Khiva 191
Water-wheel for the irrigation of the fields in Khiva 192
Part of the large canal from the Amu Darya to Khiva 193
The son of the Khiva Divambegi, Sardar Bey 194
Two Khivinians 195
The town-wall round the town of Khiva 196
Outlook from the town-wall across the town of Khiva 197
Burial ground in the town of Khiva 201
Part of a street in the town of Khiva 203
Outlook across the roof on the medresse of Mahommad Amin Bahadur Khan in the town of Khiva 205
Tash-havly 207
A wall of majolica at Tash-havly 209
Ibrahim Khodsha's sepulchral chamber at Khiva 211
Saint's sepulchral chamber at Khiva 212
The old blind late Divambegi in Khiva 213
The Batshas of the Khan of Khiva 215
Carriage (arba) at Khiva 216
Rider at Khiva 217
Durra-field at Khiva. Also common in Bokhara 218
Ruins of the castle of Giaur Kala 219
Our gema on the left bank of the Amu Darya 221
A large farm in Khiva 223
The minaret of Sultan Mahommed Karashmishah 227
The border of the desert south of Kona Urgendtsh 229
Ruins near Kona Urgendtsh 231
Our habitation at Kona Urgendtsh 232
Decayed burial ground outside Kona Urgendtsh 233
Aulia of Imâm Fakir Ghâsé near Kona Urgendtsh 234
The top of the gumbas of Sheik-i-Sharab at Kona Urgendtsh 235
Kirghiz summer camp on the right bank of the Amu Darya 237
Inundations from the Amu Darya in the town of Hanki 239
Khivinian women waiting for the ferry to Hazarasp 240
From the upper part of the town-wall at Hazarasp 241
Our arbas are ferried across a canal in a gema 243
Ruins of the palace of Ramankul Inâk near Hazarasp 245
The Beg of Charjui in full dress 285
Bokharan woman 287
Bokharan woman 288

Page

Bokharan woman 289
Two Bokharan Karaulbegis, my attachés during my stay in Bokhara in 1899 291
Mirza Abdul Kader Beg 293
Jewish family in the town of Bokhara 299
The yard in the palace of Ilti-khanéh in the town of Bokhara 307
Wall decoration in the palace of Kâplân in the town of Bokhara 309
Wall decoration in the palace of Kâplân 310
Part of a wall in the palace of Kâplân 311
Wall decoration in the palace of Kâplân 313
Painted stucco in the palace of Karí 314
Painted stucco in the palace of Karí 315
Wall decoration in Quyi Hauli 317
Common Bokharan folding-door of poplar wood 321
Yard-front in the interior of the palace of Shehrbedén near the town of Bokhara 323
Harem room in the Emir's palace of Staramâkâsá in the town of Bokhara ... 327
Wall decoration in plaster in the house of the Jew Isak ben Ghasof in the town of Bokhara 329
Caravanserai in the town of Khiva (like those at Bokhara) 335
Tambourine and drums 337
The old railway-bridge across the Amu Darya 349
Covered arba 351
How wheels for the arba are made 353
Camel caravan in the desert near Bokhara 354
Bells, halter, leathern case, bell of brass and chain 355
Bokharan horse trappings with silvered iron-building 356
Bokharan horse trappings mounted with plates of gold and decorated with turquoises 357
Saddle-cloth of velvet with gold-brocade 359
Woven saddle-bags 360
3 Chinegobs 361
The court-yard of Mashit-i-Kalân in the town of Bokhara 371
Trombone, yak-ox tails, leathern fan etc. 372
Woven Bokharan prayer-carpet 373
Glazed tiles, partly Persian, partly Saracen style. Two stone-jugs 374
Bokharan mosque candlesticks 375
Veranda of a mosque at Baha-Eddin 377
Holy fountain at Baha-Eddin 381
Prayer in the mosque of Labihavs-i-Divambegi 383
School in the town of Bokhara 387
A choir of calandars 395
The original calandar dress in the town of Bokhara 397
Rectangular gumbas with two cupolae (double-tomb) 403
Long rectangular kabr. Kabr in several stories. Pointed kabr with rectangular basis. 405
Poor Kirghiz tomb in the steppe. Pointed kabr with kobbá 407
Entrance to an old sepulchral chamber of burnt bricks in the town of Bokhara 409
Pointed kabr with earthen jug for corn and water. Form of the common gumbas. Tomb of Pasha Ismail-i-Sâmâné. 411
Aulia Ayup Paigambar in the town of Bokhara 413
Entrance from the anteroom in Ayup Paigambar to the sepulchral chamber of the prophet 415

Page

Aulia Khodsha Tyshabé near the town-wall of Bokhara 417
Sketch of the tomb of Baha-Eddin 419
Mosque and tomb complex in front of the gate of Baha-Eddin 421
Dâniâr Khan's burial vault in Bokhara 423
Kabr of frame work with reed-roof on the Amu Darya. Kabrs from Kirr-adsh-Kirr on the Amu Darya 424
Rectangular kabr with two pointed kabrs on the top and name-post. Special form of a terraced kabr 425
Rectangular gumbas with cupola and kobbá. Bee-hive shaped kabr of burnt bricks. Bee-hive shaped gumbas 427
Kabr shaped like a basin. Basin shaped kabr. Kabr formed like a basin. Kabr with name-post. Kasak-Kirghiz tomb with name-post. Kabr on which is placed the bier 429
Magic dishes of brass 431
Batshas and musicians 437
Stringed instruments 439
Bokharan physician who is about to let blood 447
Velvet carpet embroidered with coloured silk 453
Brass stand, copper jug and mortar 454
Brass aftâbá with two basins 455
Chillems of pumpkin 456
Chafing-vessel of brass, richly engraved 457
Copper lid and copper pot 458
Tinned copper dishes 459
Tinned copper vessel, tinned copper tray, tinned copper lid 459
Small vessels of tinned engraved copper. Two larger engraved brass dishes. 460
Tinned engraved copper vessels 461
Jugs of brass 462
Kungans of copper and samovar of tinned copper 463
Nos-kaduhs of pumpkin 464
Nos-kaduhs of elaolite and marble 465
Man's dress 468
Kalapush of cotton-linen embroidered with silk 469
Two patterns of Bokharan velvet 470
Two patterns of Bokharan silk 471
Breeches of blue velvet with gold-brocade 472
Boots 473
Belts and buckles for Bokharan officials 474
Two double knives, Karatagh-knife, whetstone and knife 475
Bokharan sword 476
Man's dress 477
Hatches and knives 478
Shields 479
Bokharan matchlock 480
Two-stringed bows for shooting with small stones 480
Coat of mail, spears and breast-plate 481
Complete Bokharan woman's dress for out-door use 482
Woman's head-kerchief of silk with gold-brocade 483
Doppé of shellac 483

Page

Bokharan loom ... 483
Women's trinkets ... 484
Women's trinkets ... 485
Coulter, shovel, ax, knife and sickle ... 493
Burial ground outside the walls of Bokhara ... 504
Entrance gate to Bokhara, the road from New Bokhara ... 505
Main street in Bokhara ... 507
View across the roofs of Bokhara ... 511
Burial ground inside the walls of Bokhara ... 515
Part of a street on the outskirt of Bokhara ... 517
The wood-market at Bokhara ... 519
From the Jews' quarter on the outskirt of Bohhara ... 520
Various forms of Bokharan knives ... 521
Leathern wallets ... 522
Woman's head-kerchief with gold-brocade ... 523
Kalapush of straw and of gold-brocade ... 525
Bokharan jugs of brass ... 526
Bokharan tea-jugs of brass ... 526
Brass jugs and copper jug ... 527
Water-jugs from Bokhara ... 527
Bokharan spinning-wheel ... 528
Bird-cage for the bedannah ... 529
Earthen jugs and lamps ... 530
Leathern bag and leathern purse ... 531
Bazar for water-bags and inflated hides ... 532
Merchants outside a mosque in Bokhara ... 533
Vegetables in the bazar in Rigistan in the town of Bokhara ... 534
The melon bazar in Rigistan at Bokhara ... 535
Porch of the Ark facing Rigistan ... 537
The state-prison inside the walls of the Ark ... 539
Part of the pond of Labihavs-i-Divambegi ... 540
From a corner of Mashit-i-Labihavs-i-Divambegi ... 541
From the fruit-market of Labihavs-i-Divambegi ... 542
A corner in Mashit-i-Kalân ... 543
From a niche in Mashit-i-Kalân ... 545
From the interior of the mosque of Mir-Arab ... 547
Entrance to a new mosque outside Bokhara ... 549
From the interior of Medresse Kökel Tash ... 550
Mullahs and merchants outside a mosque at Bokhara ... 551
The palace of Quyi Hauli at Bokhara ... 553
Yard-front in Quyi Hauli ... 555
Yard-front from the interior of the palace of Shehrbedén ... 557
Painted wooden verandas in Shehrbedén ... 559
The Emir's gilded throne-chair in Shehrbedén ... 561
Saït Abdul Akhad Emir of Bokhara ... 575
Shugnan Falconer ... 577
Bokharan officers. (A colonel and two captains.) ... 581

TABLE OF ERRATA

Page	4	Linie	11	fr. b.	cencerved
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„	10	„	12	„ „	Balkk
„	12	„	23	fr. t.	Balk
„	13	„	10	fr. b.	Turco-Mongols
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„	49	„	19	„ „	litte
„	103	„	19	fr. t.	til
„	136	„	13	fr. b.	Kizil-zu
„	137	„	10	fr. t.	Kizil-zu
„	267	„	9	fr. b.	fell
„	267	„	8	„ „	fur-cloacks
„	273	„	7	„ „	West Pamir
„	522	„	8	„ „	boats
„	551	„	5	fr. t.	M.-i-Lahihavs
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1.

BOKHARA

INTRODUCTION

THE realm of Bokhara of to-day, omitting the small eastern part, the West Pamir provinces, is shaped like a half-moon the convex side of which points towards the Mahometan centre, Mecca, and the concave towards the Altai mountains. I must draw attention to this accidental circumstance, apparently symbolic. The broad sides of this long narrow continental realm which from the south-east, from "the roof of the world", stretches north-west to the Aral-Caspian hollow, point towards Mecca, the sacred city of the crescent from which Islam spread to the Interior of Asia, and towards the Altai mountains, the native land of the Turks, who now govern this sworn realm of the Sunnism. For in no other country is Islam more firmly established than in Bokhara, nowhere is daily life more dependent upon religion than here, and nowhere has the Turkish supremacy been proved more unfit to guide a country on the way of culture than here, in spite of many other good qualities in the Turks. Consequently the Emirs, formerly so mighty and dominating in the Interior of Asia, have been obliged to submit to Russia. In 1868 when Samarkand, then belonging to Bokhara, was occupied by the Russians, the whole realm became the vassal state of Russia.

In a way it must be regretted that this country which is so interesting will by degrees be deprived of its old-fashioned Oriental character, and like the many other visitors to Bokhara I am happy in having seen all the peculiarities of the country while it and its people are still the same as in the days of Tamerlan, but when one thinks of the atrocities committed here before the Russians became the advisers of the Bokharan kings, the people must be con-

gratulated upon this change which affords the individuals better conditions of life; and from a scientific point of view one must also be grateful to the Russians because they have always allowed the natives to be their own masters in domestic questions, only taking care to remove the gravest abuses of power and the brutal influence of old superstition; thus Bokhara is still for a good time secured against being arrayed in European garment, and it will be long before the original Oriental character vanishes, and the electric wires are introduced. The Emir of Bokhara still lives as in days of yore behind his high crenelated walls, and his subject kings, the Begs, still keep up their old-fashioned court in the romantic dismal castles. The meandering streets with the flat-roofed mud houses, the mosques and medresses are not yet disturbed by houses built in the European style; Mullahs, Dervishes, Calandars and Devannahs still crowd in the sacred spots as centuries ago. Slowly and sedately the caravan of camels crosses the wide deserts and steppes, the two-wheeled Arba jolts along the rough roads, and the donkey loaded from ears to tail patiently walks on his short thin legs like drumsticks; the dogs throng in the Mahometan burial grounds and the vultures round the dead bodies of the camels. The „Âblâh-Akbar" of the Mueddin accompanied by the braying of donkeys and cooing of turtle-doves is always ringing across the orchards and rice-fields of the oases; the mysticism of inclosure prevails everywhere; the gates of the towns are shut up at night, the house gates barred against intruders, and the aversion to keeping intimate company with the Christian dogs is the same as in the middle age; not desire but force has brought the Mahometan in connection with the European; I dare say that none but the rollers perching in a row on the telegraph-wires have voluntarily anything to do with one of the speaking-tubes of European civilization.

Into this country in the Interior of Asia which is far from the way of Ocean travellers and inclosed by wild deserts, wide steppes and impassable mountains we shall now proceed.

THE BOUNDARIES OF THE EMIRATE OF BOKHARA

run in the main towards the east from Karamuk in the Alai mountains down through High Pamir almost in a straight line west of the lake of Yashilkul (Yellow Lake) to the village of Langarkish or Langarkisht on the junction of the Pamir Darya and the Pandsh in the province of Vakhan, so that the whole territory in West Pamir which is in-

habited throughout the year belongs to Bokhara, but the eastern Pamir with its high deserts and steppes with their sparse Kirghiz nomadic population belongs to Russia, being subject to the Government of Turkestan. The whole south boundary towards Afghanistan is formed by the river Amu Darya and its main source Pandsh from Langarkish through the provinces of Vakhan, Garan, Shugnan, Roshan, Darvas and Afghan Turkestan to the point of Bossagy on the Amu Darya about 53 kilometres north-west of the town of Kelif. From here the west boundary towards the land of the Turkomans or Transcaspia follows the west bank of the Amu Darya as far as immediately north of Turpak Kala (Clay Fortress) and Kavakly, so that all the oases on the western bank of the Amu Darya except Kerki, in May 1887 made over to Russia by the Emir, belong to Bokhara and the geographical western boundary towards Russia is formed here by the desert of Kara Kum (Black Sand). Where the west boundary ends, Bokhara with an insignificant northern boundary meets in the desert its born enemy, the Khanate of Khiva, which, like the Bokhara people in Turpak Kala, has its frontier fortress and custom-house in Daya Katin Kala. Thus the Amu Darya from Bossagy to Kavakly runs exclusively through Bokharan territory. The northern boundary of Bokhara towards Russia east of the Amu Darya runs from the fortress of Metebly or Maktably (School Fortress) south of the district of Petro Alexandrowsk (this was formerly called Tört or Dört gjül = The Four Flowers or Roses, and has been taken from Khiva by the Russians) through the desert of Kizil Kum (Red Sand), across the isolated mountain ridges Sussi Karatau, Arslan-tau (The Lion or Panther Mountains), Kasak-tau (The Khirgiz Mountains) to the highest point in Nura-tau (The Mountains of the Light). The east boundary towards the Government of Serafshan runs almost due south embracing in a large curve Nura-tau and the mountains south of this, Ak-tau (White Mountains) along the sixty sixth meridian between the towns Zia-eddin and Katta Kurgan (The large Fortress) to about 59 kilometres north-east of Karshi on this meridian. From here the north boundary towards Russia or the Government-General of Turkestan, the home of the Sarts, runs eastward following the crests of the mountain ranges of Samarkand-tau, the Hissar Mountains (The Palace Mountains), the Serafshan Mountains and the Alai range (The Summer range, possibly from its many luxuriant pastures where the Kirghiz go in summer with their cattle; to the mountain pastures the shepherds of the resident people move to live in summer huts or

summer villages, Ailâks or Yailâks, contrary to Kishlak or Kishlâk, winter village, the established towns) to Karamuk.

It is easily seen that the Russians have taken care that the Serafshan (The Gold Strewer; saraf = exchange-broker) with its tributaries runs within Russian territory proper and only its lower channel-like course within Bokharan territory. Here the Russians have acted deliberately, thus being able to provide plenty of water for the large oasis of Samarkand and to control the Emir of Bokhara by cutting off the Serafshan, on whose water the existence of the town of Bokhara and all surrounding villages depends. Such a step would very soon reduce the Bokharan government to compliance.

More than two thirds of Bokhara, the middle and eastern part, is mountainous country which in Pamir and the Hissar Mountains rises to a tremendous height; of the last third the smaller part is steppe and the remnant is half desert or desolate quick-sand desert. That the country is inhabitable is due to the mountains in whose valleys, sheltered against the wind, immense masses of snow are heaped up in winter, which in spring and early summer, when the snow melts, give water to many rivers all of which join the three principal rivers, Oxus or Amu Darya, Serafshan (The Polytimetus of the ancients) and Kashka Darya. On these three rivers depends the habitableness of all Bokhara; if the whole country were lowland like the north-western part from about 66° longitude East, Greenwich, all would be a desolate, lonely, impassable desert. Its continental situation and excessive continental climate with a very dry summer lasting often from the middle of April to November would irremediably reduce the country to a desolate lunar landscape, if the rivers during the dry summer did not water it, having such a surplus of water after leaving the mountains as to be able without any affluents to penetrate into, and as far as the Amu Darya is cencerved, to traverse the sandy desert.

The mountainous country in Pamir and Hissar is traversed by numberless rivers winding rapidly through narrow valleys whose upper parts are desolate, filled with fragments of rock and almost impassable, whereas the middle and lower parts contain numerous, well cultivated oases where all plants can thrive in the fertile loess which is artificially irrigated. The longer the rivers and the wider the valleys are, the greater is the loss of water on their way through the tilled oases, not least owing to the enormous evaporation in summer; their lower course is therefore generally comparatively waterless; several disappear in sandy deserts, saline fens and

pools, for instance the Serafshan and Kashka Darya, which waters Shahar (Shahar-i-Sebbs = The Green Town), and even the mighty Oxus is on its outlet into Lake Aral a shallow, idly flowing river whose main course is hardly to be distinguished from the other delta arms. The mountains are wildly romantic; glaciers and perpetual snow alternate with high-deserts, granite and slate peaks, vertical rocky walls of quartz and mica-slate, thousands of feet high, desolate valleys covered with stones, rounded by the water, green grass-grown terraces where the nomads live, idyllic villages shaded by mulberry trees, willows and poplars, quick-sand stretches where nothing but the tamarisk grows here and there. The lowland is flat, lonely, sparingly grass-grown, covered with sterile clay where the barkhans whirl up or with sheer fine sand in whose dunes the camel wades to the belly. Salt-fields cover large plains, the springs are few and often saline, nothing but a few reeds, tamarisks and saxaul cheer the wanderer and show him his way through the intricate regions. Nowhere in the large north-western lowland is life of any kind except on the lower course of the Kashka Darya and Serafshan in the rich centres in the Interior of Asia, Bokhara and Karshi, and on its border along the Amu Darya where the narrow stretch of arable soil is circumscribed by wild sand deserts right from the Kundus-darya to Khiva.

To facilitate the survey I shall to the more detailed description of the surface within the boundaries of Bokhara premise a division of the country into 3 parts according to the physiognomy of its territory viz. 1. Mountain Bokhara, the whole easterly part to about the 66th meridian, 2. Steppe Bokhara between the latter and the curve of the Serafshan across Karakul and 3. Desert Bokhara or Kizil Kum in the north-west. In Mountain Bokhara the large tributary stream of the Amu Darya, the Vakhs (Surkhab or Kizil-su) makes a topographic boundary between the two main mountain groups of Pamir and Hissar, and therefore I shall immediately for the survey divide the mountainous country into: 1. The Bokharan Pamir Mountains, and 2. The Bokharan Hissar Mountains; the former comprise the inhabited Pamir between the above mentioned boundary line, the Pandsh and the Vakhs, i. e. Pamir with its spurs towards the south-west, and the latter the Hissar mountain ridge with its southern spurs down to the valley of the Amu Darya.

MOUNTAIN BOKHARA

THE BOKHARAN PAMIR MOUNTAINS

Of the extensive mountain giant, Pamir, situate between about 37° and 40° latitude North and 71° and 76° longitude East, Greenwich, a considerable part of the highest, wildest and most romantic mountains, are within Bokharan territory; for although Pamir falls towards the west, the transition from mountain to valley is here more abrupt than in East Pamir where the physiognomy of the country, consisting of looser material, is dependent upon the special meteorological conditions owing to the steady levelling and disintegrating action caused by frost and water; the whole region is in fact more like a plateau above which mountain ridges and peaks project like ruins from the desert or poor high steppe (O. Olufsen: Meteorological Observations from Pamir 1898—99. Copenhagen 1903). In West Pamir the main source of the Oxus, the Pandsh, with its many tributaries forces its way through deep intricate valleys with almost inaccessible slopes, the mountains stand out with sharper peaks and ridges, perpetual snow covers most of the tops, and in the northern parts the Bokharan Pamir contains some of the most extensive glaciers in Pamir, thus the glacier of Peter the Great or Periokhtau with spurs in the Darvas and Vandsh mountains whose height exceeds 7000 metres above sea-level and in a stretch of only some 100 kilometres towards the south-west falls to a height of about 14—1600 metres in the valley of Pandsh river. The mountain Tadjiks, Galtshas, as they are often termed, live in the valleys on the river banks or on the terraces where the mountain brooks run or ooze down, they are the scattered or left remnants of the oldest Iranian people; for some reason or other, — several might be mentioned but no one proved, — they have retired to these remote regions which only recently have been discovered. In these valleys hidden from the world which contain a good deal of mysticism, as does Pamir on the whole, and where the population separated by mighty mountain ridges lead an almost subterranean existence, many small kingdoms or Emirates were formed in olden time, all of whose princes professed themselves descendants of Alexander the Great. Now and then one small realm subdued the other, sometimes the neighbouring great powers and rulers of the world entering here subjugated the mountain Tadjiks, but the invasions have not caused more change in the habits and conditions of life of the small realms than a short

shower on a summer day. They were certainly nothing but short raids, as the conquerors from the richer valleys and oases were not tempted to a constant stay here far away from the pulsing life in the main towns of Central Asia; the old Iranians must very soon have recovered their breath behind their mountains, the strong castles given them by nature, and language, types, manners and customs retained their local character. Even now each small glen forms a province or realm by itself, and descendants of the old mountain princes exercise government; they are nominally subject kings, governors or „Begs", as they are termed, under the Emir of Bokhara, but actually independent, as the Bokharan control is not very effective.

Pamir of whose inhabited western part we shall mainly speak here is according to some authors already mentioned in the Avesta, the sacred books of the adherents of Zoroaster, presumably dating back as far at least as 600 years before Christ; it mentions both the main rivers of Turkestan, the Syr and Amu Darya, under the names of Rangha and Ardvi-sura. The Avesta also knows the regions on the Serafshan (Bokhara and Samarkand) under the name of Sogd or Ssughdha and Bactria, the present Afghan Turkestan and Margiana, the regions about Merv and the river Murghab in Transcaspia. It is possible that the Avesta knows also about Pamir, as Ardvi-sura, sung as a sacred river, is said to come down from Hara Berezaïti (The High Mountain), whereby Pamir and the neighbouring mountains were probably meant; but, still, I am more inclined to believe that by this are meant the Elburs mountains south of the Caspian. The Iranian myths relate that here is the cradle of mankind. It is said to have been formerly a charming country abounding with fruits and other delicious things, but when the wickedness of man grew great, this Eden was destroyed by God by means of snakes, snow, and sandstorms. Pamir is also called Bâm-i-dunya meaning the roof of the world, and the very word of Pamir or Pamer is perhaps connected with the word of "Mirîdan" which means "to be injured by frost" and with the Old Iranian root "mar" = to die, and etymologically it means a cold, desolate, dead country exposed to the winds, which agrees excellently with East Pamir; for this region with its lakes, Rangkul og Karakul, forms the transition between the central and perific parts of Asia, and especially the surroundings of the lake of Karakul illustrate very well our idea of the appearance of a dead lunar landscape.

On the other hand it agrees less or not at all with the Bokharan,

inhabited Pamir with its many charming valleys where grapes, figs, almonds, apricots, peaches and mulberries abound, and the climate differing from the windy, rough and dry climate in East Pamir is often magnificent and exceedingly healthy. The word Pamir is, indeed, never used by the natives of the western inhabited valleys; here only the old names of the provinces occur, Vakhan, Ishkashim, Garan, Shugnan, Roshan and Darvas, and when asked about the situation of Pamir, the Tadjiks always answer that by Pamir is meant only the plateaulike steppe or desert highland from the Transalai range to Vakhan round the lakes of Karakul (The Black Lake), Rangkul (The Grass Lake), Yashilkul (The Yellow Lake), Bulunkul, Tuskul (The Salt Lake), Sassikkul (The Stink Lake), Gaskul (The Goose Lake), the four latter east of Yashilkul in Alitshur-Pamir, Sorkul or Victoria Lake (The Salt Lake), all more or less saline, or in other words the Transalai range, Kargoshy Pamir, the Murghab mountains, the eastern part of the Alitshur range, the Pamir and Vakhan mountains, consequently the territory which is so elevated that constant habitation is not possible, that trees cannot thrive (only on Yoemantal near the pass of Naisatash or Nesatash (Spear Stone) in Alitshur, round Yashilkul and on the Pamir-darya (tributary of the Pandsh) grow low willows, roses and tamarisks), where the grass-growth is scarce along the mountain brooks and on the banks of the rivers and lakes, where breathing is very much impeded by the thin air, where the mountain-sickness reminding one of the sea-sickness is common, and where the traveller often suffers from headache, bleeding from the nose and palpitation of the heart the dry air, only about 10 % relative moisture, in connection with an intense radiation of the sun makes the skin of hands and face peel off in rags, and nothing is seen but the sand, gravel and slate masses of the mountains. And nevertheless this inhospitable country is inhabited almost throughout the year, the higher regions, indeed, only during the summer which lasts two or three months and is not rarely interrupted by snowstorms in July and August, but still the Alitshur Kirghiz live in Pamir the whole year round, in the depth of winter only removing their camps to the middle course of the Pamir-darya sheltered by a few low copses of willow and tamarisk.

But the mountains in East Pamir, about east of the 73th meridian, cannot be physically separated from the western from which they differ in so many respects, and therefore the division, steppe or desert Pamir for the eastern parts and dale Pamir for the western,

Bokharan, is commonly used and is very characteristic. In West Pamir deserts or steppes on a large scale do not exist. Here there is only room in the bottom of the valley and on the terraces for cultivated oases or grass fields bordered by steep, generally naked slopes, and the transition between earth and heaven is in the perpetual snow or in greenish blue glittering glaciers.

Knowledge of Pamir in former Times. Travels. In former times the knowledge in Europe of the countries of Pamir in a wider sense was very scarce, and it is very doubtful whether on the whole Pamir itself was known. Herodotus, Eratosthenes, Strabo and Ptolemæus were all aware of the Amu and Syr Darya. The journeys of Alexander the Great threw some light upon the countries of Central Asia, and his name, "Iskandár" is well known and highly honoured in all the Pamir realms. He did not penetrate as far as these regions, but he may possibly have learned something through rumours from the native Iranians in Bactria, Sogdiana (Sogd) and Margiana which as far back as history dates have, like the Chinese, always been in a sort of contact with the population of the Pamir countries, the merchants, at any rate, even if not the governments. Thus natives in Vakhan told me that Chinese merchants from time immemorial had visited this province selling tea and corals, the red corals (Mardyan) being a favourite female ornament, that Chinese coins were the only ones known, and that the Chinese had not ceased to appear until a very recent time under the Afghan, Russian and Bokharan government. On the north bank of the lake of Yashilkul I found during my journeyings in 1898—99 ruins of Chinese intrenchments and remnants of a tower where there were hewn granite blocks with Chinese decorations (see Geografisk Tidsskrift Vol. 15; p. 177). It seems certain, then, that the Chinese have had a firm footing in East Pamir; we do not know whether they have possessed the Iranian valley realms of West Pamir; no traces occur, as far as I know. Some are of opinion that they extended their sway to Badakhshan west of the Pandsh river. China has possibly under the Han dynasty in the third century before Christ during the warlike troubles between Yuetshi, Hiungnu and the Greek-Bactrian realms stretched its tentacles as far as here, but nothing is known with certainty neither of the relation of the Chinese to the Pamir realms nor whether the latter have been under the sway of the Greek-Bactrian realm. China

has left no trace here as is the case with the Greek-Bactrian realm in old myths still known in these regions.

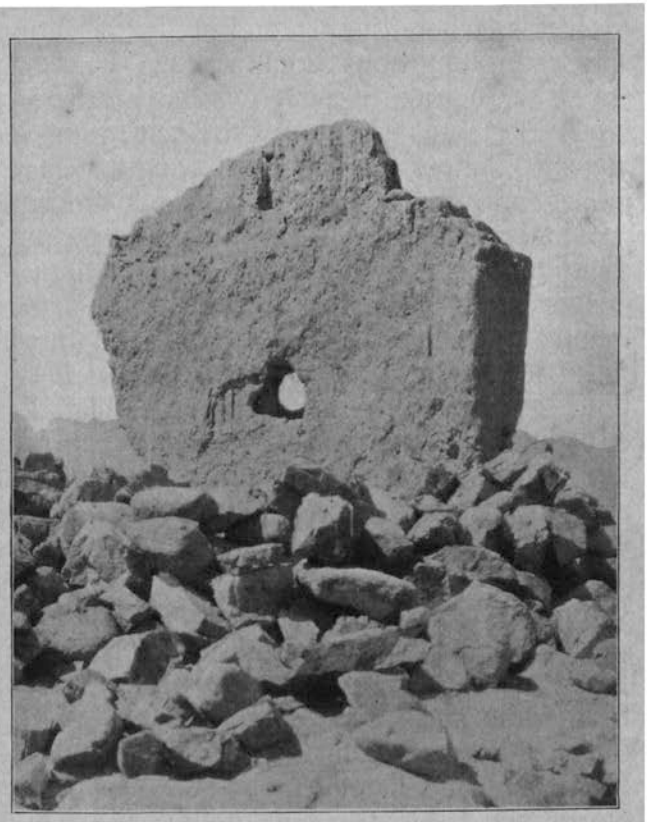
Much goes to show that the Pamirs have voluntarily done homage to the Occidental conquerors; the regard for the name of Iskandár bears witness to this, but neither China nor Bactria were probably firmly established here; the glens, so exceedingly difficult of access, where supply and communication were nearly impossible, and where the troops would risk every moment finding themselves in a cul de sac frightened away possible invaders, so that the advance of the Greek-Bactrian realm was restrained by the mountains of Badakhshan, and the Chinese were obliged to stop where the plateaulike territory passes into the wild glens towards the west. Apart from this the mountain valleys were too valueless for a conqueror to stake anything to obtain them. In his excellent book: "Die Pamirgebiete", W. Geiger gives a survey of the contact and connection between the Pamirs and their eastern and western neighbours from the earliest times to the present day, and to the details given here I draw attention. It seems undoubtedly proved that those who were obliged to cross the huge extensive mountains either for purposes of trade, in virtue of their office, from love of travelling or in the function of missionaries have purposely shirked the mystical deep mountain valleys in West Pamir, choosing the routes north and south of them.

From the countries north of Pamir, from the oases of the Syr Darya and Serafshan, the road even then crossed the easily accessible passes in the Alai mountains, the Alai steppe and East Pamir to Kashgaria, Tibet and China. From the countries south of Pamir, from India and Afghanistan to Bokhara, Khiva, Merv etc. there was the road across Karshi and Gusar to the valley of the Amu Darya and from here southward the passes in the southern Badakhshan to Northwest India or across Balkk and Khulm in Afghan Turkestan and the pass of Bamian in the south to the Kabul valley or from the north across Herat, Ferrakh, Giriskh and Kandahar through Afghanistan to India. These routes are the most passable, and the territory being here of a more open character, the wider view sideways makes it easier for the caravans to avoid sudden attacks than when winding through no end of narrow valleys in Hissar and Pamir where it was impossible in time to detect an ambush.

Thus Bokharan Pamir and in part the Hissar valleys were far away from the main routes in Central Asia, and without exaggerating it may be said that next to nothing was known of them till into the 19th century, and this is especially the case

with the Pamir valleys which only at the end of the 19th and the beginning of the 20eth century have been explored by European investigators.

Of the countries on the middle course of the Amu Darya in the present Afghan Turkestan we hear from the earliest times and likewise of the oases on the Serafshan and Amu Darya whose flourishing realms had always with shorter interruptions connection with the large world in the east and west, but as to the Pamirs history is silent. Buddhism which had once found favour with Bokhara has possibly had a slight contact with its mountain provinces; of this we know nothing, but when the Arabs had conquered Central Asia in the 7th and 8th centuries Islam made its way by degrees into the Pamir valleys, but very slowly, and as regards Garan and Vakhan only in the 19th century, and the Islamitic conquerors have left no records of the realms of Pamir. An observation of the present prime minister in Bokhara, Djân Mirza Divambegi, a very intelligent and learned Mussulman bears witness to the fact that the knowledge of the Pamir valleys has been extremely slight not only in Europe and in the Asiatic civilized countries connected with this part of the world, but also in the neighbouring localities. He told me that, as far as his knowledge of ancient history went, and as far as one could judge, the Pamir valleys, except Karategin and Darvas, had



Remmants of a Chinese tower near the lake of Yashilkul.

always belonged to the world of myth. Intercourse with them had always been slight, they were not worth much being sparsely populated and a refuge to which criminals resorted, because they could as well take the chance of losing their heads there as in Bokhara. Although nothing can with certainty be based on such an observation, I have put it down as it agrees with the opinion of history.

During my journeyings in the Pamir valleys in 1896, 98 and 99 I often met with such roving fugitives, and at the end of 1896, when I got an audience of the Emir of Bokhara, Saït Abdul Akhad, after having as the first European traversed Vakhan and Garan on the right bank of the Pandsh, and gave him an account of my journeyings in these countries which belong to him, he said to me that he was very glad to hear of them as people in Bokhara knew nothing of these regions, indeed, they only in 1896 surrendered to Bokhara, but also from a purely political-geografical point of view they were hitherto practically ignorant of them, owing to the exceedingly difficult access.

Jenghis Khan in the 13th and Timur in the 14th century had very little or nothing whatever to do with the valleys on the upper Pandsh. But in the 13th century (1272—73) Marco Polo traverses these regions passing Badakhshan and mountain Pamir by Shibarkhan and Balk, and he may possibly have taken the same route through Vakhan as I in 1896, but the details given by him are of the slightest. In 1602 the Jesuit father, Benedict Goës, passes Badakhshan and Pamir on his way from India to Yarkand. Journeying from Afghanistan to Bokhara Moorcroft in 1827 and Alexander Burnes in 1832 touch at Badakhshan, but not at the Pandsh valleys in Pamir. Finally there is John Wood's journeys to the sources of the Oxus, and to him we are indebted for the first reliable knowledge of these regions. He visited in the winter 1838 Victoria Lake (Sorkul) in High Pamir, the south bank of the Vakhan and Badakhshan. About 1870 a few "native explorers" visit from India the southern Vakhan and an Indian surveyor Abdul Subhan, member of the expedition of Douglas Forsyth in 1873—74 passes even the present Afghan bank of the Pandsh valley on his way from Ishkashim by Kalai-bar-Pandsh (The Castle above Pandsh) in Shugnan to Kalai Vamar in Roshan. At the same time as the latter expedition and later on are some journeyings of Russian explorers in the steppes and high deserts of East Pamir and likewise some Russian explorations in the Hissar mountains, but not in the Pandsh valleys. In 1878—81

an Indian Pundit, Munshi Abdul Subhan, again passes a few parts of the inhabited Pamir valleys, but was prevented from making exact measurements and notes, and in 1881—83 Hofrath Albert Regel visited the Pandsh valley from the north as far as Shugnan, entered Kalai Khumb in Darvas as the first European and visited many valleys in the Hissar mountains. Finally the great Russian Pamir expedition in 1883 may be recorded keeping, indeed, principally to East Pamir where the lonely highland and the access across the latter from Turkestan to India had by degrees caught everyone's interest in these parts of Asia.

Only at the end of the 19th and the beginning of the 20eth century do the Russians begin to send a few topographers into the valley realms on the Pandsh to take sketches of the river courses which had, as we have seen, been nearly always consigned to oblivion and in this no doubt fear of venturing thither has been instrumental. Since my exploration of Vakhan in 1896 regular Russian posts have been established in Langarkish and Rang in Ishkashim, and in Khorok on the river Gund in Shugnan 1897—98. Up to this time the only Russian post was Pamirsky Post on the Murghab in East Pamir, visited by so many travellers; but it seems to have been nothing but a sort of vedette to watch the access from India and China. Whether political reasons were concurrent I do not know, but it does not seem to have been used as a basis for explorations in the inhabited West or South Pamir, being through many years an advanced military post and nothing else.

In a mountain country, especially one as mighty as East Bokhara, the rivers point out the inhabited regions. In the following I shall therefore group the description of the territory round the latter, being in this case mainly one, the Oxus, with its many tributary streams which water these in all respects interesting valleys where the Iranian culture has sent its furthest offshoots, east and south-east to the sphere of interest of Turco-Mongols and Indians and north and north-west to that of Turcs and Russians.

In my book "Through the unknown Pamirs, Vakhan and Garan", Heinemann, London 1904, I have given a detailed account with maps of these two Bokharan provinces on the Pandsh, which in my opinion must reasonably be reckoned as the main source of the Oxus or Amu Darya. Some consider Aksu (White River) the middle course of which is called Murghab (Bird River) and the lower Vartang as the main source, being larger and more abounding in water than the Pandsh. Regarding this part of Bokhara I shall therefore refer

to this book and begin where it ends, at the outlet of the river Gund into the Pandsh in the province of Shugnan.

Somewhat south of the outlet of the Gund into the Pandsh where the boundary of the realm or province of Garan is at the tunnel mentioned in "Through the unknown Pamirs", the old Pamir realm of Shugnan begins which embraces the valley of the Pandsh ar far as the tower of Derbend or Darband (Door Fastening or Barring) which is about 10 kilometres south of the river Vartang, and the valley of the Shakhdarra and the inhabited part of the Gund valley, but Bokhara possesses only the eastern bank of the Pandsh river. These two rivers meet at a distance of 7 kilometres from the Pandsh, and after their junction they are called Sutshan (see. Geografisk Tidskrift. Vol. 15; page 1—9. "Den 2. danske Pamir-ekspeditions Vinterstation 1898—99. O. Olufsen.").

Shakhdarra. The Shakhdarra (The Horn River) whose whole run falls within Bokharan territory has its beginning near the Mas pass from two sources, of which the northerly, Kok-bai (The Blue or Green Beg or Merchant) rises south of the pass of the same name, and the southerly, Tokele-tjokt, at the eastern end of the about 6000 metres high mountain colossus which separates the Vakhan valley from the Shakhdarra valley. Both sources are situate at a height of about 5000 metres. From the Mas pass a rather easy passage leads across the smaller Mas glacier from the valley of Pamir-darya to the Shakhdarra, and passing along the Kok-bai one crosses the pass of the same name (4390 m.) to Tokus-bulak (Nine Sources), tributary stream of the Gund. Another passage leads from the ravine of Zir-i-Zamin (Under The Ground), grown with willows and tamarisks on the Pamir-darya, where I have pitched my camp several times, a short day's march north of Langarkish to the sources of Tokele-tjokt and from here down into the Shakhdarra valley.

If we consider the Tokele-tjokt as the main source of Shakh-darra which is the most reasonable thing to do, as it is more considerable than Kok-bai and comes down from the higher range round Peak Zaritza Maria north-west of Langarkish, about 6500 metres high according to the Russian measurements, the Shakhdarra has a length of about 134 kilometres to its outlet into the Gund or Sutshan. The junction of the rivers Gund and Shakhdarra is at a height of about 2050, which means that the course of Shakhdarra has a fall of about 4000 metres or about 30 metres in each kilometer. From the partly snow-clad mountain colossus, attaining to a height

of 6000 metres between the valleys of Gund and Shakhdarra west of the lake of Turumtai-kul and being the watershed between them north and south, the Shakhdarra receives besides Kok-bai 14 affluents, of which the longest, Drumdarra, is about 40 kilometres long and runs through a small alpine lake Drumkul or Trumkul (The Egg Lake, perhaps from the many birds brooding on its banks). From the south it receives 17 tributaries, all very short, the longest, Turaly Djilga (The Prince Copse) only about 17 kilometres long, and the others still shorter, owing to the steep incline of the mountains down to the valley on the southern bank of the river. On its middle course one sees from the bottom of the valley 2500—3000 metres upward to wild, mighty snow-covered peaks of a height of about 6000 metres whilst the range north of the middle course of the river has much softer formations and transitions. From the south the short mountain brooks, often like water-falls, rush down through narrow ravines, having no banks, so to speak; but those from the north have a more quiet course through gentler valleys which widen out and give room here and there for pastures and fields. The highest crests both in south and north are unexplored like the upper courses of the tributaries.

On its outlet into the Gund, the Shakhdarra penetrates through a gate in the mountains, so narrow that a stone can be thrown from one bank to another. The Tadjiks have, indeed, sometime barred the access of the valley by means of small fortresses of which remnants are still seen. But once outside this gate which lends a highly mystical appearance to the valley, and some kilometres south-east, the valley widening out gives room to numerous small kishlaks, all situate on the outlet of the small mountain brooks into the main river on the more level slopes that have formed from the disintegrated material which has fallen down from the mountains. On the stretch as far as Drumdarra the valley is broad and open, and here are good bridle-paths on both banks, but from here upwards there is but one path, now following the right, and now the left bank. From the sharp knee formed by the river as its westerly course turns suddenly north-westerly, there is a pass-road across Drumkul and Turumtai-kul to Tokus-bulak and the regions on Yashilkul, and a difficult passage across the pass of Shitkar to the river Andarab with the hot springs (see "Through the unknown Pamirs"). The Shakhdarra valley is exceedingly beautiful; the most imposing views are seen here from the terraces of the mountains, where the eye embraces at the same time deep

dark clefts, sweet widenings of valleys, where the kishlaks are shaded by willows, poplars, mulberry, apricot and walnut trees, and the greenish coloured serpentine river, 20—30 meter broad, and sharp, black peaks relieved by perpetual snow. Of all the Pamir valleys, the Shakhdarra valley is said to offer the most beautiful prospects. About 50 kishlaks hold within their flat-roofed houses about 3000 inhabitants, all of them mountain Tadjiks who take great pains in tilling the soil by means of artificial irrigation through long, narrow channels which are led round about on the mountain slopes, and in summer they wander up with their cattle to the mountain pastures (Ailâk) on the grass-covered terraces on the upper course of the tributaries. The highest situate kishlak is Seïs, at a height of about 3300 metres. From here upwards agriculture is at an end, and the territory nearest the Mas pass is employed by some Kirghiz families as a nomadic place in summer. An author records that there must have been habitations still higher than in Seïs, there being ruins of houses etc. It may be so, I have not been on the spot, but I presume that it is due to a misunderstanding, as the primitively built stone huts (Ailâks) have been taken for remnants of villages, a mistake easily made. All the Turkish (Kirghiz) names east of Seïs indicate namely that the place has been the nomadic place of Kirghiz through long times, whereas the word of Seïs and the other place-names farther west are obviously of Iranian origin.

Beyond most other Pamir valleys the valley of Shakhdarra has another advantage, that there are rather extensive woods, especially of mighty narrow-leaved willows and partly poplars, of which the former are often overgrown with a sort of clematis which with its downy seeds makes the trees look in autumn as if they were covered with wadding. The valley is therefore important in South Pamir as a place for felling of trees; timber for building and fuel is supplied to many neighbouring valleys, and the Russian post in Khorok is practically provided with fuel from here; on horseback it is carried toilsomely over no less than about 60 kilometres. On asking the inhabitants in Garan where they got the very thick planks which made up the pillars and roofing of the houses, I was always told that they had been brought from the Shakhdarra or the Andarab valley, where so large collections of thick willows and poplars also occur that they may be termed woods. On the upper course of the Shakhdarra and its tributaries and round about in the more sheltered ravines there is a spontaneous vegetation of

juniper, hippophaë, tamarisk, barberry, small broad-leaved willows and roses; the latter occur everywhere in the Pamir valleys up to a considerable height, about 4200 metres, at which height the treeless limit must be set here.

The mountain masses chiefly consist of granite and slate, in several places varied with eroded conglomerate formations, and deposits of loess occur on the cultivated terraces and on the river banks. Lakes are very rare in West Pamir; there are the small alpine lakes, the above mentioned Drum-kul at a height of 3425 metres, about 2 kilometres long and nothing but an extension of the river Drumdarra, and Turumtai-kul (Turum is probably the same word as Trum or Drum, egg, and Kul or Köl is the Kirghiz (Turkish) name for lake) at a height of 4360 metres on the passage from the Shakhdarra to Tokus-bulak. The latter has a length of about 5 kilometres and a breadth of 2 kilometres, being a dammed up basin formed by fallen fragments of rock which have stopped the glacier- and snow-water on its way to Ak-sai, the main source of the Tokus-bulak. Apart from these small lakes there are a few insignificant collections of water on Kok-bai, called Kok-bai-kul, and about 5 kilometres south-west of Turumtai-kul a small alpine lake, Balyk-kul (The Fish lake), the circuit of which does not exceed a few kilometres. According to my Kirghiz guides from Yashilkul Turumtai-kul has here and there meadow-like banks where salt appears, and the water is said to have a saline taste.

In Drum-, Balyk- and Turumtai-kul there are large carps, probably of the same kind as those in the lake of Yashilkul; they are very savoury, wherefore the lakes are the haunt of large brown eagles having their fishing place here as on Yashilkul. It is very interesting to see the large eagles which at some distance are very like a man sitting on the ground; immovably quiet they sit on the bank of the lake staring down into the water and so full of their fishing that one can steal upon them almost near enough to touch them with one's hands. On discovering a carp they rush down into the water as swift as lightning to catch it with their claws. It happens that the carp is large enough to draw down the eagle under the water; then the bird tries to loosen his claws from the fish and rows to the shore, so to speak, by means of his wings, sometimes even bringing the fish along with him. One day I helped such a fisherman on shore with an oar; he received the help willingly, and sitting down beside me on the bank dried his feathers without trying to attack me or to run away. Other wild birds found on the

lakes are cormorants, snipe, stilt-plovers, geese and ducks. And in the mountains round about Shakhdarra, Tokus-bulak and Yashilkul are rather large numbers of bears, mountain panthers, wolves, jackals and foxes.

On its middle and lower course the Shakhdarra is from April to November so deep that one can neither wade nor ride across it, and it does not freeze entirely owing to its rapid current. The natives have therefore in three places of its middle course built primitive bridges of trunks of trees which can be passed with caution by unloaded horses. During my stay in the village of Khorok in the winter 1898—99 a fourth bridge was built across the Shakhdarra near its outlet into the Gund.

The River Gund. The next larger river in Shugnan is "Gund" or as it is pronounced by the Tadjiks "Ghrund". It has its beginning in the eastern desert Pamir about the passes of Busterre and Naisatash, runs through the Alitshur valley on whose green grass-covered banks the Alitshur Kirghiz nomadize both summer and winter with their many yak-oxen (Kutas), camels, horses, cows, sheep and goats, passes the lake of Yashilkul that abounds in fish and has exceedingly picturesque surroundings of mighty snow-covered peaks and ravines grown with willows and roses (see Geografisk Tidskrift Vol. 15 p. 177), hot springs etc., and then the river forces its way with a steadily western course through a chaos of fallen mountain masses, granite and gneiss, that bar the west end of the lake, and through a nearly impassable, uninhabited valley bordered by the immensely steep granite and gneiss walls of the Alitshur range. About 50 kilometres west of Yashilkul we meet the first established habitation, the Tadjik kishlak of Sardym, situate at a height of 3160 metres, and about 5 kilometres east of the latter, is the boundary between Russian and Bokharan territory and between the country of the agricultural Tadjiks and the places of the nomadic Kirghiz.

Intercourse between desert Pamir and the valley of the Gund is very difficult. There are, indeed, bridle-paths along the Alitshur river and on both banks of Yashilkul, but from my own experience when measuring and mapping the lake in 1898, the latter are perilous to pass, and horses, when loaded, can only be led in a few places; the passage from Yashilkul along the northern bank of the Gund to Sardym, of late improved by the Russians, also offers great troubles. The easiest route, improved by the Russians in 1899 and 1900, is from the east end

of Yashilkul across the pass of Khodsha Nazar (The Sacrifice of the Teacher), 4114 metres, and the pass of Koitjesek (The Sheep Hole), 4270 metres, to the sources of the Tokus-bulak and along this river to the Gund valley, to whose wide banks covered with splendid tree-growth a magnificent view opens out.

From the Bokharan boundary to the outlet of the river into the Shakhdarra the river Gund runs between steep mountain walls both in north and south through about 100 kilometres of Bokharran territory, on this stretch it has a fall of about 1200 metres or 12 metres in each kilometer; conveying a very considerable body of water it has in some places a breadth of about 50 metres and apart from the two primitive bridges, which are built across it, it can only be passed at a few fords at low water from December to March, sometimes not at all. As a rule there are passages on both river banks, but in a few places both on the north and south bank, the mountains run like steep walls into the river. The Russians began, however, in 1898—99 a road from their post at Khorok along the Gund and Yashilkul to Alitshur, and this extremely difficult work is now so far accomplished that mountain artillery can without hindrance be conveyed along this passage.

From the south near the Bokharan boundary the river receives the Tokus-bulak, which together with its main source, Aksai, whose beginning is from Turumtai-kul, runs entirely through Bokharan territory, except two small tributaries that come down from the region round the pass of Koitjesek. After having turned off from Turumtai-kul the Tokus-bulak has a north-westerly course and receives from the east and west the waters of many mountain brooks on whose banks and mountain terraces there are good pastures in summer. It appears from the Turkish (Kirghiz) names with which both the main river and its tributaries are designated, that the Kirghiz have nomadized here from olden time. But now the territory has been reserved for the Tadjiks from the highest situate kishlaks on the Gund which they leave in summer to wander up with their cattle to the mountain pastures, and then a large part of the population live as a kind of half nomads in their Ailâks. Just before its outlet into the Gund it receives besides the many small mountain brooks the river Duzakhdarra (The Hell River) which runs through a narrow cleft in the mountains where the banks are not inhabited.

It appears from the maps that as soon as we have come down so far into the valleys of West Pamir that agriculture can take place, the Kirghiz (Turkish) place-names are at an end; this shows,

either that the agricultural Tadjiks have constantly been a match for the Turkish-Mongolian nomads, or that the Kirghiz fond of their out-door existence, have always despised the art of tilling the soil, or both circumstances. Without the least doubt battles have been fought between these two representatives of the large western and eastern races up to our own time; for both can tell of such fights. But on the part of the Kirghiz they were nothing but rapacious raids, and these rather uncivilized hordes did not think of obtaining cultivated ground, and if they had any intentions of the kind, they were not able to hold their own against the Tadjiks. The Tadjiks hate the Kirghiz, hold them in contempt, and mock them as soon as they appear in the kishlaks. Very rarely a Kirghiz is admitted to the house of a Tadjik or entertained by him. When the Kirghiz on their many expeditions with provisions from Turkestan to the Russian fortresses in the inhabited valleys in West Pamir, arrive at a kishlak, they are obliged to pitch their camp outside the town in spite of their being Mussulmans and Sunnites as well as the Tadjiks, and consequently have a right to hospitality. The Kirghiz, especially those in Pamir, are, indeed, very bad Mussulmans; they are rather heathens, but among the populations in the South Pamir valleys Islam does not play any prominent part either. It is then neither Islam nor non-Islam which separates the two nations, but by the more cultivated Tadjiks the Kirghiz are simply looked upon as a mean, thievish, nasty set of people, hunted by evil spirits and therefore to be kept at a proper distance from one's hearth. As they are excellent caravan people it would be very convenient to take the Kirghiz along to the inhabited valleys in West Pamir where the passages are much more difficult than in desert Pamir. For this reason I tried to persuade some of my acquaintances among the Alitshur-Kirghiz to accompany me through Vakhan as caravan people, but I did not succeed, and when I traversed Vakhan in the winter 1899 on my way to East Pamir, I had asked the Kirghiz Amin Jakub from Tagarkakdje to meet me with some camels in the village of Langarkish (Winter Resting Place) where he waited for me about a week, but he was shown outside the town, not because he, a clever and rather well-to-do man, had in the least offended, but the Tadjiks did not venture to house him, it was too uncanny for them. Nor were the inhabitants of Langarkish certain, according to their saying, whether other Kirghiz would not follow him and perhaps renew those assaults and raids in these valleys which had stopped only a few years ago.

From the Bokharan boundary to Sutshan the Gund receives from the south about 20 smaller tributaries, all of them coming down from the snow-covered mountain giant which separates the Gund and Shakhdarra valleys, and where only two passages allow of intercourse between the middle courses of Shakhdarra and Gund in the east along the Duzakhdarra across the pass of the same name, 4617 metres, and along the tributary of Shakhdarra also called Duzachdarra, another a very difficult passage in the west across Saffarnyun, height unknown, but presumably exceeding 5000 metres. This mighty, about 6000 metres high mountain colossus consisting of granite and gneiss covered by slate has with its imposing crest, divided into a chaos of peaks, a length of about 70 kilometres from the north-east to the south-west, on which stretch it is practically inaccessible; no one has hitherto explored it. From the Sutshan valley I beheld every day through about 6 months the splendid sight of these snow-covered granite and slate peaks which seemed to thrust themselves into the blue heavens, apparently quite devoid of vegetation.

The tributaries coming down from here are very short, none of them exceeding 15 kilometres; their course is rapid, for as a rule they have a fall of 3000 metres in 15 kilometres or 200 metres in one kilometer. On their way to the valley where they pour their waters through many brooks down stony terraces, they rush like waterfalls from one terrace to another through deep dark ravines where the sun only reaches very rarely, and where icicles throughout the year hang like picturesque draperies on the rocks which have been torn by the frost into curious shapes and figures; sometimes their waters do not reach the river, being employed in irrigating the fields that are always grouped round the nether course of the tributaries, because irrigation is much easier here than on the main river from which a fall across fields and gardens can not easily be obtained, and without irrigation agriculture is not to be thought of here, as in most Pamir valleys, the summer being rainless nearly everywhere.

From the north, from the western part of the Alitshur range, here wedging itself in between the rivers Vartang and Gund, the latter receives as from the south about 20 tributaries, of which few exceed 5—6 kilometres; they convey slight bodies of water and are often dried up in the latter half of the summer. The Alitshur range remarkable for the exceedingly steep incline of its secondary ridges towards the south from Yashilkul to about half-way between Sardym

and Khorok, has in winter much smaller snow-masses than the mountains south of the Gund, probably because it is more like a plateau than these, for the fragile slate masses broken up by the abrupt transitions of temperature, frost, water and wind have filled the ravines where the snow is used to lie. North of the upper part of the stretch of the Gund mentioned here it is covered with perpetual snow only in a few places, in spite of attaining here to about 5300 metres, and the whole of the low easily passable crest that wedges itself in between the Pandsh and the Gund, and consists chiefly of broken and disintegrated slate heaps with an archæan rock of granite and gneiss, is totally devoid of perpetual snow and almost without vegetation. During my stays in Khorok I often mounted it to hunt the long-tailed mountain panther which attacked the cattle now and then in the Gund valley, and I have rarely seen such a distressing desert of slate blocks as here. On its incline towards the Pandsh valley there is a richer vegetation, for here the sun does not dry up the slopes so much. The only exhilarating incident during my wanderings among these slate heaps were the immense quantities of garnets found here; here, as well as on the Gund, Shakhdarra and Pandsh in Vakhan so many might be brought together that several caravans could be loaded with them; but those on the surface were, of course, disintegrated.

The valley of the Gund river is exclusively inhabited by mountain Tadjiks or Galtshas, as it has been the fashion to call them; among the numerous mountain Tadjiks I have spoken with, I have never met one who knew the word of Galtsha. There are here about 40 larger and smaller kishlaks, of which the largest have some 20 houses, and several only a few. My informer, Captain Kivekaes, who has often traversed the Gund valley gave the population to be, at a rough estimate, about 3500 individuals, and rather more than less. Somewhere in the valley there are undoubted deposits of loess, and round about the kishlaks whose gardens are shaded by apricot, mulberry and walnut trees there is a good treegrowth of mighty willows and poplars, among which the pyramidical poplar, but they do not occur, as on the Shakhdarra, in so large numbers that they can be termed woods. On the slopes there is a sporadic growth of juniper, at some distance looking like conifers, and on small inaccessible terraces, where a bit of earth has been accumulated, there are wild roses, barberry, thorny copse and clematis and among these also many flowering plants always growing in tufts. Wild pear and apple trees, currant and blackcurrant bushes

and raspberries are also to be found here and there in the more sheltered ravines.

The Gund, which has run towards the west and the south-west, suddenly about 5 kilometres from its junction with the Shakhdarra turns due south through a narrow, dark and naked ravine whose bottom hardly ever sees the beams of the sun and therefore at all times of the year is cold as a cellar and uninhabited. After the junction of the Gund and Shakhdarra the united rivers are called Sutshan which name is rarely employed; it is called Gund also here and the Shakhdarra is considered to be its tributary. Sutshan which I visited in the summer 1896 with my 1st Danish Pamir Expedition, and on which I was encamped from the end of October 1898 to March 1899 with my 2nd Danish Pamir Expedition, is 7 kilometres long and a mighty rushing river. It conveys a greenish body of water and is passable only at a single ford a little east of the western half of the village of Sir-Khorok (Lower Khorok). Here it is about 50 metres broad and can be passed on horseback with great difficulty in February and March, but as this is not possible every year the Russians have now built a bridge across the river to facilitate the intercourse between this part of Shugnan and Garan on the Pandsh. After my journeyings here in 1896, the Russians built a fortress here in 1897 and 98 that holds a garrison of infantry and cossacks to support the Bokharan authorities against the Afghans. On passing this river like the other rivers in Pamir where there are no bridges and fords, one must use inflated skins and floats made of these which we shall treat of later on.

On some extensions of the north bank of Sutshan is the village of Khorok on a few small tributaries from the north, of which only the western on Sir-Khorok conveys water every year throughout the summer. In summer the valley is very smiling. The kishlaks are shaded by high mulberry, apple, apricot, pear, peach and walnut trees, and many gardens have hedges of a kind of hippophaë which, attaining to a height of 5—7 metres, has yellow mealy fruits of the same size as large cherries which are picked up and eaten. Large narrow-leaved willows and poplars, especially pyramidical poplars along the watering channels and along the Gund are of a great decorative effect. The valley which widens out considerably on the outlet of the Gund into the Pandsh is sheltered against all winds wherefore one always feels here as in a cauldron; far in the west the mountains in Badakhshan stand out like a mighty screen against the west winds. In summer the temperature rises above 35°

Centigrade, and even at night the heat is extremely trying here, so that one prefers to stay in the open air during the night, if nets are at hand against the mosquito swarms that abound in the still calm air; it is also advisable to place the legs of one's camp-bedstead in vessels filled with water to avoid scorpions which in all the cultivated Pamir valleys and especially in some places are a dreadful plague. During my journeyings I was often obliged to clear the ground of scorpions with a broom before daring to pitch our tents, and in spite of this cleaning process we found soon after several in our blankets, at the top of the tent poles etc. Here they become 9—12 centimetres long, and their bite which I experienced once is very painful, and the wound long in healing. Round about the mountain slopes and on the terraces where the melting water oozes down there is much grass in summer and many flowering plants relished by the small cows, sheep and goats of the Tadjiks. But in winter the valley offers a desolate and dreary sight. The cold air sinks down into the valley and lies there; opaque frosty mists hanging along the ground till after noonday or disappearing on the short days often convey the feeling of wandering on the bottom of a lake. I shall here give a copy of my diary from January 1899.

"Our station is situated at a height of 2047 metres in the kishlak of Sir, Khorok in the old Pamir realm of Shugnan. At this time of the year the rivers convey but a slight body of water, but at snow-melting time enormous quantities of water on their raging course down a chaos of fallen fragments of rock make such a tumult that it is impossible to hear any other sound near their banks; they form waterfalls and cataracts and can only be traversed on fleets of inflated skins in a few broader places where the river bends. North, south, east and west the view is obstructed by steep promontories shutting off 35% of the visible heaven and according to our calculation on the 21st of December 1898 they prevented 50% of the heat radiated by the sun from reaching down into the valley. The sun is now only about one hour and a half above the mountain tops, and the valley is dark, dismal and cold. It freezes hard both day and night. The lowest temperature has hitherto been 25° Centigrade below zero. At noonday the temperature may rise to 15° and 12° Centigrade below zero. Nevertheless the mountain brooks are not frozen on account of their rapid course. At a depth of 27 centimetres the earth thermometre showed 8,3° Centigrade below zero, of 57 centimetres

2,6° C. below zero, at a depth of 87 centimetres 0,6° Centigrade and at a depth of 117 centimeter 2,4° Centigrade. The first snow fell here in the valley on the 15th of November; it thawed comparatively soon in the bottom of the valley, but lay on the mountain slopes. Thus several days of November the surroundings about the station were snowless, but on walking only 4 miles eastward we were stopped by enormous masses of snow on the river Gund; through these the Kirghiz still carry letters with great difficulty by Pamirsky Post on the Murghab to Turkestan, but, indeed, no one but Kirghiz can be persuaded to undertake such tasks at this season. The severe cold is not felt very much, the wind being insignificant, generally only 2 according to the 12 divisible scale, and the air is rather dry. Several days into December none of us had yet put on a cloak in the open air. But the relative moisture is much greater here than in desert Pamir. On our arrival in October we were overtaken by some dust-storms rising soon after sunset at the moment when the local descending mountain wind began. The main direction of the wind was the same as that of the mountain wind, and combined they almost attained the violence of a hurricane. Dust and small stones whirled about in the air darkening the heavens, it lasted for a couple of hours, then it fell again dead calm. For the rest it is generally calm weather here; an almost imperceptible wind turns with the sun from east to west by south. But according to the natives violent tempests which are able to level houses and trees with the ground will sometimes prevail throughout the winter. The mountain winds rising and falling during the day have not such enormous strength as on the lake of Yashilkul where at a certain hour of the day they burst forth with hurricanelike violence threatening to blow away the whole camp; they are hardly strong enough to unfold a pennant. The atmospherical pressure is exceedingly constant; the daily variation of the barometer is generally but 2—3 millimetres; minimum occurs at about 3 o'clock p. m. and maximum towards sunrise.

The mountains round about chiefly consist of granite, gneiss and slate, in several places the slopes are at an angle of about 50—60°. Owing to the great daily and often sudden change of temperature a disintegrating action is steadily going on in the mountains. Loud booms are often heard, sounding like thunder and caused by falling fragments of rock. The disintegrated mass is during snow-melting time brought down into the valley by the

wind; in the course of time it has formed a fertile layer which yields a rather good crop by plentiful irrigation. Rain is so rare that it is of hardly any importance to vegetation. On the terraces formed by the material fallen down from the mountains, are situated the kishlak or kishlaks of Khorok, we live at Sir Khorok on the north bank of the Gund; it has 33 houses with about 120 inhabitants. A little east of us is Bar Khorok (Upper Khorok) also on the north bank of the Gund with about 15 houses and 60 inhabitants. With the few houses on the south bank of the Gund the joint population can be estimated at 200 inhabitants, all of them mountain Tadjiks.

Both the Shakhdarra and the Gund valleys are in winter from November to April filled by enormous masses of snow, practically interrupting the caravan transport. The snow conditions are most difficult on the Gund, but in several places the valleys are, on the other hand, quite snowless all the year round, it depends upon the wind. In the snowless places the cattle find their food throughout the year, but in those exposed to the snow they must be stabled in winter. The intercourse between the villages is extremely slight in winter, very few men are now and then seen tramping in their snow-shoes plaited from osier bands. During snow-melting time in April and May the passages are very difficult in the valleys. Snow slides and avalanches are of every day occurrence, and falling fragments of rock often destroy the villages and cultivated fields, on which occasions also many human beings are killed. In the spring of 1899 loosened granite blocks of half the size of houses often rushed down into the Sutshan valley, producing a turmoil as if the world was on the verge of ruin. These regions are also plagued by earth-quakes; during my stays here I experienced three which shook the houses so that the clay-roofs tumbled down, but did not occasion other calamities. The Tadjiks told me that the earthquakes rarely do any great harm, but they become more vehement and more frequent farther north towards Turkestan".

The Pandsh River to Kalai Vamar in Roshan and the River Vartang. From the Sutshan valley northward through Shugnan og Roshan past the decayed remnants of old fortresses, the so-called Top-khanáh, situate on a confused maze of fallen fragments of rock, which are the most extreme point of the Alitshur range towards the south, the Pandsh valley from a narrow gate in the mountains widens out very considerably, and the Pandsh, now augmented

by the waters of the Shakhdarra and the Gund, has during snow-melting time a breadth of about 1 kilometer or more. In innumerous windings the Pandsh runs with a rushing noise through a well inhabited district, its direction being almost north to south (on the Russian maps its direction is marked out as too easterly); both banks are inhabited by Tadjiks, but only the east bank belongs to Bokhara, whilst the west bank in Badakhshan, formerly together with the east bank making up the realm of Shugnan with Kalai bar Pandsh as capital town, belongs to Afghanistan. In a few places the valley widens out and has rather extensive cultivated or grass-, copse-, and straw-covered banks, in other places it narrows into a mere cleft in the mountains whose naked granite and slate slopes run like walls down into the river where the cascades with a resounding uproar rush down over fallen fragments of rock so that the whirling foam dashes against the mountain sides. On the greater part of the west bank the steep mountain slopes come right down to the river, and the tributaries from the west, (about 10 more important), steadily conveying water stream down through dismally deep, dark ravines to the Pandsh. The tributaries from the west, whose length does not exceed about 17 kilometres, are more considerable than the many small mountain brooks from the Alitshur range, but nevertheless the eastern bank, the Bokharan, is better populated, as the incline of the mountains forms terraces whose plentiful grass-growth affords good pastures for the cattle of the Tadjiks. On the stretch of the river mentioned here there are no bridges. On the broader, lake-like extensions where the current is quiet, the inhabitants ferry across the river on floats of inflated skins. In a few places boats might very well be used but are not known. Along both banks of the Pandsh there are passages on which caravans can be led toilsomely and by means of porters. The passages in the west across the mountains in Badakhshan called the Shugnan mountains, are exceedingly difficult and only passable by pedestrians. The access to the southern Badakhshan and Afghanistan is by Kalai bar Pandsh to Faisabad etc., but taking the route due west one ends in the mighty glacier-covered mountains south of Darvas with the mountain knot of Patk which is quite unknown, but whose height can probably be estimated at about 7000 metres. But there are easy passages in the east to the river Gund where the Alitshur range can be crossed in many places, and where there is a lively communication between the inhabitants from both valleys. And about 6 kilometres south of the outlet of the Vartang into the Pandsh there is another

pass-road across the Devles pass to the lower valley of the Vartang. On the Bokharan bank before Vartang there are about 20 kishlaks with a population of about 2500 inhabitants.

The Vartang River. About 4 kilometres south-east of Kalai Vamar (Kala or Kalai = Fortress) Pandsh again receives a very considerable tributary, the river Vartang. The Vartang, on its upper course in East Pamir called Aksu (White Water or White River) runs through the grass-covered broad Aktash plain (White Stone Plain, but I wonder whether the proper name is not Akdasht, as dasht means plain) and, having received tributaries from the north and the south and having passed Pamirsky Post, it wedges itself under the name of Murghab (Bird River) through an almost inaccessible ravine between the Murghab mountains and the Alitshur range and flows out into a broader, inhabited valley at the point of Tash-kurgan (Stone Fortress). A little east of Tash-kurgan it receives waters from the north both from the Sulumart mountains and the glaciers in the north-eastern part of the Vandsh and Roshan mountains, as the rivers Koikuibel and Tanymas meet here and flow into the river which from now is called Vartang. The place-name of Tanymas, occurring both on the Russian and several older maps, appears to me somewhat mystic, "tanymas", an Usbegic word meaning "unknown". Some Usbegic or Kirghiz interpreter asked by a traveller as to the name of the river has perhaps answered: "unknown", or, "one knows not"; this seems probable, as similar errors are to be found on Russian maps in rather considerable numbers. The river, whose direction has hitherto been chiefly west, turns south-west at Tash-kurgan in numberless windings, and especially in spring it conveys a considerable body of water down to the Pandsh where it causes trying inundations which both prevent passage and destroy the arable and tilled soil. On its outlet into the Pandsh it is at all seasons quite impassable, and only somewhat up the Vartang, can one cross the river on gupsars (Sanatch or Tursuk).

The Vartang valley is towards the south bordered by the Alitshur range and towards the north by the Roshan mountains which together with the Vandsh mountains form the bipartite glacier-clad spur from the mightiest glaciers of Pamir, the mountains of Peter the Great or Periokhtau; its height exceeds 7000 metres and has the most imposing formations of glaciers, clefts and interjacent peaks, but only the margins have up to the present date been explored,

not the main glacier itself. The valley of which only the 80 kilometres from the outlet of Vartang to somewhat west of Tash-kurgan belong to Bokhara, widens out considerably in some places, especially on the outlets of the tributaries into the main river, where it gives room for the cornfields and gardens of the Tadjiks. But these oases are separated by dark, narrow and deep clefts in the mountains where fallen granite blocks and slate masses impede the passage along the river. The route follows now one and now the other bank of the river, several difficult fords have to be crossed, for only in some places of its middle course within Bokharan territory are there primitive bridges of a few planks and osier bands. The access from the valley northward to Karategin east of Periokhtau is by the 4720 metres high pass of Takhta-korum (Takhta means board and korum stone-masses which name is derived from the pass being covered in the north by flakes of mica-slate and lime) to the sources of the river Muksu, and southward to Yashilkul and Gund along the Murghab by the highest situate kishlak, Sares, 3210 metres, and the 4785 metres high pass of Mardyanai (Coral Spring) along the affluent of Yashilkul, Large Mardyanai.

In spite of the sporadic occurrence of glaciers and perpetual snow, separated by abrupt, sharp crests of granite and covering layers of slate, there are several passages, although very difficult, across the Roshan mountains from the Vartang valley northward to the river Yashgulam, thus the route by the pass of Odudy along the small rivers Odudy to the Pandsh, and Âb-i-Maderaun (The Maderaun River) to the Yashgulam, two pass-roads a little farther east to the inhabited valley on the Âb-i-Pandsh (tributary of Yashgulam) and finally a pass-road from Tashkurgan across the pass of Kafurwatsh to the upper course of Yashgulam, but the latter can only be used by pedestrians.. All these passages lead across glaciers and perpetual snow that in a way form bridges across the sharp ridge in those saddles which interrupt the crest. They can only be passed by people equipped in a special way, and in summer only before sunrise, as the intense solar radiation in these regions renders the glacier and the thin ice, built by the night-frost, friable after a short time. From the terraces in the Vartang valley one has the view of the perpetual snow both south in the Âlitshur range and north in the Roshan mountains, whereas the Murghab range which is the watershed between the main sources of Murghab and Vartang and attains to about 6000 metres, is in summer a blackish brown or greyish mass. The Roshan mountains stand much steeper

down into the valley than the Alitshur range which falls off to the north in secondary undulations. Within Bokharan territory the Vartang receives from the north about 15 and from the south about 14 tributaries, none of them exceeding 10 kilometres; they have a rapid course, especially those from the north which are more immediately to be characterized as waterfalls. They convey much loosened material down into the valley, which forms half-conical terraces among whose maze of rounded stones the nether courses of the mountain brooks divide. On the lower course of the Vartang I met with undoubted deposits of loess and highly probably these are continued along the river where the ground is cultivated. The kishlaks are more numerous on the southern bank where several, as on the main river, are situate on higher terraces on the tributaries where the irrigation of fields and houses can be effected. On Bokharan territory there are about 30 kishlaks with a population of presumably about 2000 Tadjiks. The growth of trees is almost the same as on the Gund and the Pandsh, and likewise as at Kalai Vamar there are on the lower course of the river grapes and peaches, and the kishlaks are generally shaded by mighty white and black mulberry trees, walnut and apricot.

The Pandsh from Kalai Vamar to Kalai Khumb. The Yashgulam and Vandsh rivers. From Kalai Vamar, the main town of Roshan, where the Bokharan Beg resides in a huge, old, mediæval castle and administrates all the southern Bokharan Pamir provinces, the Pandsh suddenly turns in a large bow, first continuing its course towards the north-west and then towards the north until the outlet of the Yashgulam into the river. Forced by the masses of the Roshan mountains on one side and by the mighty knot of the northern Badakhshan on the other, its immense waters have penetrated through a ravine exceedingly difficult of access and only lately explored by Russian topographers, who have corrected the former error that the river on leaving Kalai Vamar ran first in a south-western direction. On this bend the valley, which west of the large extension at Kalai Vamar narrows into a deep and dark ravine, is generally bordered by almost vertical rock walls. It can only be passed by pedestrians; and all baggage has to be carried by porters. The paths wind now high up on narrow terraces, now among the fragments of rock along the seething and foaming waters which grind to pieces all that falls into their whirling eddies, now the path passes fragile balconies of trunks of trees and osier bands from one

spur to another. On travelling northward in summer one avoids therefore this part of the Pandsh valley, preferring the pass of Odudy, but this is generally snowed up from the end of September and sometimes even before (See the following chapter of travels), and there is therefore no choice in winter, when Kalai Vamar is often quite excluded from its surroundings.

Just before the outlet of the Yashgulam into the Pandsh we enter the old kingdom of Darvas (Gate) which until about 1840 was an independent realm under a native Tadjik prince, residing in Kalai Khumb; like the prince in Shugnan, up to about 1870 the independent ruler in the rocky fortress of Kalai bar Pandsh, he professed himself a descendant of Alexander the Great.

Having received the Vandsh river on its right bank the Pandsh turns in large windings mainly west to Kalai Khumb on which stretch the passage through the valley is very difficult, and as it appears from the following chapter of travels highly imposing and interesting of view. From the south, from Vartang to Kalai Khumb, the Pandsh receives a considerable number of short mountain rivers and brooks, altogether 25, of which a few, Tang-Shiva and Âb-i-Shirin on Afghan side, from the mountain knot of Patk have a length of about 50 kilometres, whilst the length of the others rarely exceeds about 10 kilometres. On the whole they convey but slight bodies of water, compared to the tributaries from the north, as the glacier on the knot of Patk is much smaller than those on the mountains in the north. Still, they convey water all the year round and end in dark narrow ravines on their outlet into the Pandsh. On their upper and middle course the mountains have many terraces so that the water can easily be led across the arable spots, thus giving room for kishlaks and fields. According to the explorations of recent years there are very many small villages on the incline of the northern Badakhshan mountains where the Tadjiks live a half nomadic life; but on the Pandsh itself the kishlaks are few in number there being almost no banks. According to the Russian statements there are on the Bokharan side on the large Pandsh bend between Vartang and Yashgulam besides Kalai Vamar only 7 small kishlaks with a Tadjik population of 150—200 inhabitants.

Yashgulam. After Vartang the next larger inhabited river valley is Yashgulam, as it appears from the following chapter of travels, also remarkable for its population which seems in some respects to differ very much from the otherwise very uniform mountain Tadjiks in the Pamir valleys. The Yashgulam, whose sources together with those

of the upper Vandsh make the boundary between Russia and Bokhara in this part of Pamir, has its beginning from the Vandsh glacier under the name of Âb-i-Mazar (River of the Holy Tomb or Altar River) and receives tributaries from the Roshan mountains under the names of Bai Vartang and Kafurvatsh or Kafirvadsh (Kafir means unbeliever) at the holy tomb (Mazar) after which its main source Âb-i-Mazar is named. Its beginning is at a height of about 6500 metres, it has a length of about 110 kilometres running mainly through a very narrow cleft, the upper half of which is very little known and exceedingly difficult of access, as the paths lead across a maze of fragments of rock and mountain slides. Even the lower half of the valley where small kishlaks surrounded by a sparse growth of mulberry trees, willows and poplars are situate on the outlet of the mountain brooks into the main river, is generally impassable along the river where the mountain masses have accumulated under such formations that one has to find one's way among the villages on the higher mountain slopes. The passage follows now the right, now the left bank, across fords at its upper course, whereas on the stretch from the kishlak of Andergab which has a fortress against assaults from the north-eastern Darvas, there are two pretty good bridges of trunks of trees and osier bands; of these that at the kishlak of Maderaun is the main passage from Roshan by the pass of Odudy to Yashgulam. Besides this passage there is another leading southward from Andergab along the tributary Âb-i-Pandsh across several passes to the lower Vartang where the Roshan mountains narrow into a ridge of little breadth, but sharp and steep. On the Âb-i-Pandsh are small kishlaks very near the tree-limit. The whole of the Yashgulam valley is wild and extremely inhospitable, and the climate is rough and windy. The vegetation is sparse. The main impression of a journey in this valley is as of a wandering through desolate, greyish brown slate heaps or piled up granite blocks that separate the poor small kishlaks the number of which is about 15 with a disagreeable population of 2—300 individuals.

The River Vandsh. On passing the Vandsh mountains which with their glacier- and snow-covered, sharp ridge separate the Yashgulam and Vandsh valleys, we are met by a very different sight from that in the Yashgulam valley, namely a broad, well watered charming valley with a magnificent growth of trees, numerous large kishlaks with splendid orchards and a delicious climate. There are only two passages across the Vandsh mountains, one southerly

across the pass of Guskom to Kalai Vandsh, a Darvasian fortress, and one more northerly, employed by the Ailâk shepherds; both very difficult of ascent, leading across glaciers and regions of perpetual snow. The distance as a bird flies between Yashgulam and Vandsh is only about 20 kilometres, as both rivers run side by side in almost straight lines towards the south-west; and as the Vandsh mountains from the glaciers in the north-east almost as far as the Pandsh valley fall only from about 7000 meter to 6500—6000 metres, it may be realized how imposing this range must be. Standing in the Guskom pass one looks towards the north-east and south-east along a ridge relieved by saddles where glaciers occur; greenish blue icemasses and white "firn" alternate in summer with sharp ridges and down in the bottom of the Vandsh valley the rushing, broad river winds between green trees, kishlaks, castles, corn- and cotton-fields. It is certainly one of the most imposing sights which is granted mankind to see.

The Vandsh which is said to mean the Willow River from the many willows in its valley, has its beginning near the pass of Kasal or Kasyal Ayak (The Sick Leg) in the Periokhtau glaciers. By this extremely difficult pass where the route passes glaciers and snow at a height of about 7000 metres and can only be employed by experienced pedestrians one reaches the Khingau river from the upper Vandsh valley across the Darvas mountains. From this pass to the outlet of the Vandsh into the Pandsh, the former has a length of about 110 kilometres and conveys a large body of water with a deep and rapid flow; in a few narrow places its breadth on its lower course is only 30—40 metres, but widening out on other points the breadth exceeds 100 metres. During snow-melting time the water is boggy and muddy like that of the Vartang and Yashgulam, but in late summer and in autumn it has like these clear and transparent water. Its upper main sources are called Darra-alau (The Fire River) and Abdur-kahor. On its upper course there are several sulphureous springs; whether the name of Darra-alau is connected with this circumstance I dare not decide. The Vandsh district belongs to those regions of Pamir that are much plagued by earth-quakes which often destroy the villages in this otherwise so magnificent valley. Except the lower part it is on the whole of a wide and open character. From Kalai Vandsh, 1854 metres, where a subject Beg under the Beg of Darvas in Kalai Khumb resides in a large, decayed fortress there is a splendid view far up the river valley to the imposing snow- and glacier-clad peaks in

Periokhtau. The greater bank occurs on the right side of the river where the Darvas mountains between the Khingau and Vandsh descend rather evenly, whereas the Vandsh mountains come down into the valley with an extremely steep incline and are furrowed by many narrow and deep, but short ravines through which the tributaries like waterfalls pour their waters down stony terraces into the Vandsh.

From the glaciers of the Darvas mountains the Vandsh receives about 22 tributaries, the length of which does not exceed 12—15 kilometres, and from the Vandsh mountains it receives about 18 tributaries, all very short, at the most about 8 kilometres, but as the affluents both from the right and left come down from mighty ranges covered by perpetual snow and glaciers, even the smaller mountain brooks convey water at all seasons which occasions a luxuriant vegetation, very rare in the Pamir valleys, and the growth of trees is continued right up to the perpetual snow, a fact, I have had opportunity of witnessing.

Deposits of the greyish yellow, fertile loess occur in thick layers at Kalai Vandsh and no doubt also higher up in the valley where the Tadjiks take great care to canalize every arable terrace. Owing to the steepness of the Vandsh mountains the passage between the villages on the left bank is very difficult outside the extensions on the lower course of the mountain brooks. The main passage, along which the caravans advance without special difficulties from kishlak to kishlak, therefore entirely follows the right bank. On the upper course the river can be traversed by several fords, and across its middle and lower course there are several bridges which except one comparatively excellent bridge at Kalai Vandsh are very primitive and as a rule do not allow of the passage of loaded beasts of burden, so that inflated skins must be used in ferrying the river.

The valley is only inhabited by Tadjiks, and all place-names being of Iranian origin, it seems as if the Turkish invasion which can be traced through the whole of Middle and Central Asia, has never reached as far as here. The number of the kishlaks is about 50 and the population about 4000 individuals according to the Beg in Kalai Vandsh.

After the outlet of the Vandsh into the Pandsh, on which the valley widens out considerably, the Pandsh chiefly runs due west to Kalai Khumb, 1605 metres, where the narrow, channel-like valley widens out suddenly to give room for the magnificent oasis where the Beg of Darvas resides. Both from the north, from the Darvas

mountains, and from the most northerly mountain knot in Badakhshan the Pandsh receives some rather considerable tributaries, thus from the glaciers of the Darvas mountains about 16, of which must be noticed Darra Tshikarv, Darra Kurgavat and Âb-i-Viskarv, the lengths of which are 20—30 kilometres, and whose valleys are inhabited by agricultural Tadjiks. Along these 3 rivers there are passages across passes of the same names as the rivers to Khingau and to its tributaries. Of these the pass of Viskarv, 4404 metres, is the thoroughfare for the route along the tributary of Khingau, Âb-i-Zanku, to the kishlak of Naiguf, the seat of a native Tadjik prince, now subject to Darvas, and the easiest and most practicable passage across the Darvas mountains, whereas the more easterly passages and the passes of Bunai, Arnavadi, Tekarvi, Shirgavat and Ak-bai-sitargy, from the lower and middle part of the Vandsh valley are difficult of ascent and lead partly across glaciers, so that they like Guskom in the Vandsh mountains generally can not be passed in winter, and often even not from the beginning of September.

Among the affluents from the Afghan side of the Pandsh must specially be noticed the rather considerable tributary, Âb-i-Shirin (The Sweet River) which flows into the Pandsh just east of Kalai Khumb. Its valleys are very densely populated by Afghan Tadjiks, who cultivate the soil at heights of above 3100 metres. On its outlet is an Afghan fortress with a garrison of about 4—500 horse and foot guarding the boundary against Bokhara and the castle of Kalai Khumb.

Except a primitive passage across the Pandsh between the kishlak of Istragh and Namatgut in Vakhan consisting of a few trunks of trees fastened with osier bands, there was during the period, 1896—99, when I traversed these regions, not a single bridge across the Pandsh from Langarkish in Vakhan to Kalai Khumb i. e. on a stretch of about 450 kilometres, or as far as from the most northerly point of the Skaw to Hamburg or from London to Newcastle. Neither did I find any remains of previous firm bridges; the building of these has, indeed, been beyond the strength of the inhabitants, as the rapid course of the Pandsh and principally the drift-ice in spring must have afforded an insurmountable hindrance. Inflated skins are therefore used in ferrying the river.

The Pandsh river from Kalai Khumb to its junction with the Vakhs (Kizil-su, Surkhab) and the Darvas mountains.

Having run through the realm of Darvas, the main valley of which along the Pandsh has a length of about 60 kilometres, the Pandsh first flows towards the south-west to the kishlak of Darbandak, at a height of about 1200 metres, where a tributary from the south-westerly spurs of the Darvas mountains flows into the river; then it makes a large bend south-eastward to the kishlak of Tyubek, at a height of 550 metres, and, on the route between the towns of Rustak on Afghan side and Kulab on Bokharan, divides into two main arms, in one place even three, dotted with sandy islands, on a stretch of about 40 kilometres; after this it only consists of one arm which after a southerly bend runs on due west to the outlet of the Vakhs. On the first named stretch to Darbandak opposite to the town of Kulab its valley is bordered by the steep walls of the Badakhshan colossus only giving room for a narrow bank with several small Afghan fortresses, whereas towards the north-west the Darvas mountains recede considerably and give room for a well cultivated and well populated arable land which is irrigated by many, but very short mountain brooks. From here the river soon enters a wide and open level country where the banks are cultivated and well populated, and where the open land has a monotonous steppe character. The banks which right from Kalai Khumb to Darbandak (Door Fastening or Barring) are now and then very sandy, likewise as the river on a few extensions is filled with sand-dunes, are farther south covered with immense forests of reeds and rushes, the haunt of the wild boar and the tiger, and the farther down we come into the level country, especially from the outlet of the river Koktsha, the more luxuriant is the vegetation, and the better populated the district around the river, but the territory is filled with fens and on account of the dangerous fever extremely unhealthy, nay perilous to the foreign traveller. The region here is an excellent hunting territory. Wild fowl and game, especially pheasants, are numerous, and thousands of tortoises, snakes, insects, large and small lizards occur everywhere. Unfortunately there are also mosquitoes in immense swarms among the insects, and poisonous spiders and scorpions.

From Kalai Khumb to the outlet of the Vandsh the Pandsh has everywhere the character of a mighty, deep, rapid river and on this stretch it is never quite frozen up in winter. When the snow melts it can only be passed on floats of inflated skins, but late in summer it can be crossed on horseback and camel in a few places, thus on the route Rustak—Kulab and near the Afghan fortress of

Shikai south-west of Kalai Khumb. On the former route the river is traversed from island to island at the kishlak of Tyubek on the Bokharan side; but one may also choose a little more southerly route by the kishlak of Sayat where the Pandsh divides into the two large main arms (the more northerly again into two, of which only one has water all the year round, the other is 200 metres broad and runs with a velocity of about 5 kilometres in the hour); and finally there is a route farthest east across the main river itself; here the bottom is sandy and in spring the waters rush along with a rapid course. The breadth is here about 400 metres. On the stretch from Kalai Khumb to Darbandak the Pandsh receives from the Darvas mountains 6—8 smaller tributaries, the lengths of which do not exceed 8—10 kilometres, except the tributary at Darbandak which is about 45 kilometres long; they have a slight body of water on which some small kishlaks support life. All the valleys of these rivers are connected with one another and with the valleys around the Bokharan towns of Kulab, Khovaling and Baldshuan by easily accessible passes. The Pandsh receives, however, the largest tributary after it has divided into two arms at Tyubek. Here is the outlet of Kizil-su which with its many tributaries waters some wide and well populated valleys in the territory between the Pandsh and the Vakhs.

Kizil-su (Red River) is at its upper course called Aksu; it has with two sources, Talbar and Yaksu, its rise near the pass of Talbar where there are passages to the Khingau; first it runs south-west through a very narrow ravine where there are nevertheless small kishlaks nearly up to its beginning, then the valley widens out by degrees, and from the kishlak of Khanabad to the town of Kulab, it is about 8 kilometres broad, but not very much populated, as the numerous arms of the river reduce the valley to a boggy hollow infested with fever and densely covered with rushes and reeds.

On arriving from the east from the mountains, we meet for the first time with a pretty large town, namely Kulab, 640 metres, after which the whole of the district is named. It is one of the most important commercial towns in East Bokhara; it has straight and broad streets and houses thatched with rushes and reeds which give them an almost European appearance. By Kulab a considerable trade is carried on with the neighbouring Afghanistan and India, and the town has a miscellaneous population of Usbegs, Tadjiks, Turkomans, Kirghiz, Hindoos and Afghans.

About 20 kilometres below Kulab is the outlet of the river which waters the oasis of Khovaling. Its upper course is called Khovaling, and its beginning is near the pass of Khingak or Khangak, 2740 metres, in the Khingau mountains; its valley is 4—5 kilometres broad, and kishlaks occur in large numbers on both banks. Here is also the larger town of Khovaling at a height of 1494 metres where a Bokharan Beg resides. To a little below the kishlak of Saripul (Yellow Bridge) the Khovaling first runs towards the south-west and then turns west. At the mountain and gold mining town of Baldshuan, 925 metres, it unites with Tshorab-darra which comes down from the pass of Ssipar-Hamadan, 2440 metres, in the Khingau mountains, and between the Khovaling and Baldshuan mountains it runs in a south-western direction through a very well tilled and densely populated valley. At Baldshuan, which, divided into two parts, is situated on both sides of Khovaling, with Eski Baldshuan (Old B.) and Yanghi B. (New B.) on respectively the left and right bank, the valley is very narrow, and the river rapid but not deep. From Baldshuan the river runs in a southern direction, is now called Kitshik-Surkhab (kitshik being Turkish for Little, and Surkhab Iranian for Red Water) or Kizil-su (Red River) and is on its lower course sparsely populated; likewise as Aksu, which is also called Kulab-darya (The Kulab River) it passes into low, boggy, reed-covered regions, not fit for cultivation, but the haunt of the wild boar and other game, especially wild fowl.

About 30 kilometres before the Kizil-su flows into the Pandsh, it receives the waters of Tairdy or Taissu whose course is very little known. It has its rise west of Baldshuan in the pass between the Baldshuan and the Vandsh mountains, is first called Kongur (Spider) and runs first south-west, and then south through a sparsely populated valley from which there are many easily accessible passages across the Baldshuan range, here rising only a few hundred metres above the valley, eastward to Kizil-su or Little Surkhab. The joint length of Kizil-su from the beginning of Aksu is 180 kilometres, and of Little Surkhab with Khovaling 110 kilometres. For the former this means a fall of about 17 metres in 1 kilometer.

The Darvas Mountains. The whole of the extensive mountainous region which forms the northern and western boundary of the Pandsh valley and is the watershed between the tributary streams of the Khingau and Vakhs on the one and those of the Pandsh on the other side, exclusively consists of the Darvas range with its

southwesterly spurs; it begins in the north-east with south-westerly or more immediately west-south-westerly direction and then north of Kalai Khumb turns due south-west sending all its considerable streams to the Pandsh whereas none of significance reaches the Vakhs from the Khingau to its outlet into the Pandsh. The Darvas mountains, an arm of the range of Peter the Great or Periokhtau, begin in the north-east at the Fedshenko glacier and Sseltau, the height of which attains to about 7500 metres, and recede S. S. W. generally divided into two or three parallel ridges between the Khingau and the Vakhs, then turn west to the peak of Pik Nashpurkamtsh from where spurs run down towards the Kalai Khumb valley, and send at the pass of Sagridasht (The Saddle Plain), the main passage from Kalai Khumb to the Khingau valley, two main ranges towards the west and the south-west. The latter is the proper Darvas range, here steadily dwindling in height on its way through the river system of Aksu—Kizil-su and Pandsh. The former are the Khingau mountains, sloping smoothly down to the Khingau river and shooting forth numerous spurs towards the south-west; of these the main are the Vakhs mountains and Savistantau ending in the Tair-su mountains which separate the Tair-su from the Vakhs and with a height attaining to about 1130 metres run down to the Pandsh, where the Koktsha from the Afghan side flows into the bend which is made here, further the Baldshuan ridge between Tair-su and Surkhab and the Khovaling and Ak-su montains whose short parallel spurs separate the valleys on the main sources of Kizil-su.

The Darvas mountains the north-easterly part of which is one of the most imposing snow ranges of Pamir and whose secondary ridge is also partly covered by glaciers, decrease greatly in height from the point of Pik Nashpurkamtsh; here the glaciers are at an end, and from the pass of Sagridasht and the Gushkan pass farther east (3600 metres) which leads from the Khingau valley to the Chimbai valley the Darvas range passes by degrees into the level country in the district of Kulab.

In the westerly spur of the Darvas range, the Khingau mountains, the passes are on an average about 2600 metres high. The most easterly pass is Patysak or Bolesak not far from the point where the Khingau mountains leave the Darvas range. The pass leads from the Tevildarra on the Khingau to Kulab. Farther west are the passes of Khingak and Ssipar—Hamadan whose starting-points from the Khingau valley are between the kishlaks of Tevil-

darra and Tshildarra. The former which is 2700 metres high, but comparatively easily accessible and generally open all the year round, leads down into the Khovaling valley; the latter, but 2450 metres high, lies above the tree-limit, but is as a rule snowed up in the winter; it leads down into the Tshorabdorra valley.

The Vakhs Mountains, the south-westerly continuation of the Khingau mountains, still attain an average height of 3000—3600 metres, but their southerly spurs, Savistan- or Sevistân-tau, along the left bank of the Vakhs only rise to 2200 metres. The boundary between these two ridges is formed by the pass of Gul-i-sandan, 1400 metres, which, rising but slightly, leads from the Vakhs valley to the river Kongur and is grown with foliferous trees and copse. Farther south towards the Pandsh Savistan-tau and its prolongation, the Tairdy-su mountains, fall to 1000 and 500 metres; they are covered with a sporadic growth of trees and bushes, especially maple, and only the isolated salt mountain, Khodsha-munyn, south of Kulab attains to a more considerable height, 1500 metres, about 1000 metres above the surrounding country. The next spur from the Khingau mountains, the Baldshuan range, chiefly consists of smaller clay hills across which leads the main route from Baldshuan to Hissar, and 10—15 kilometres from their junction the Khovaling and Ak-su mountains also soon fall to a few hundred metres above the surrounding country. The main route from Kulab to Baldshuan leads across the pass of Khodsha Khubedun, 1250 metres, but apart from this there are in the south-westerly parts of the mountain ridges along the Khingau, Pandsh and Vakhs numberless more or less easy passages, accessible at all seasons.

The Vakhs River. The Vakhs (Kizil-su, Surkhab; the former designation is due to the Turkish speaking Kirghiz, in part nomadizing, in part resident on the upper course of the river, the latter to the resident Iranian people in Karategin) this mighty river, length about 650 kilometres, which in the north forms the boundary between the Pamir mountains and the westerly prolongation of Tian-shan in Central and Middle Asia, the Alai mountains, the Turkestan range, the Hissar and Serafshan mountains, has its beginning under the name of Kizil-su in the eastern Alai and runs through the eastern Alai steppe where the Alai Kirghiz, a few Turkestan Kirghiz and the Kirghiz who have their winter residences in Karategin,

nomadize in summer. In the Alai steppe it receives many tributary streams, especially from the imposing glacier-clad Transalai range with Pik Kaufmann about 7500 metres, the northern border mountains of Pamir between the river Muksu and the easterly Kizil-su which flows to Kashgaria. The tributaries from the Alai range in the north are on the other hand both less numerous and smaller (O. Olufsen, Geogr. Tidskrift: Alaisteppen og den afløbsløse Sø Kara Kul etc.).

The Kizil-su divides into so many arms on the Alai steppe that it is often difficult to point out the main course, but west of the point of Daraut Kurgan (Kurgan means fortress), where there are remains of a fortress built by Khudayar Khan of Kokand, the main course is between Katta- and Kitshik Karamuk (Large and Small Karamuk). Between the two latter mountain knots is the eastern boundary between Bokhara and Russian territory and, following the small tributary Âb-i-Garm on its course between the Ilek and the Vakhs mountains to its outlet into the Surkhab we traverse the Bokharan mountain province of Karategin which on this stretch embraces the Kizil-su—Surkhab valley and the valleys of the adjacent mountain rivers all subject to the Beg in Garm, and is one of the most fertile, healthiest and most beautiful mountain provinces of Bokhara. As the description of the eastern part of this province occurs in a later section where I describe my journey, I refer to this also for the main town of Garm.

The Surkhab-Vakhs from Garm to the outlet of the river into the Pandsh. West of Garm where the river has a rapid course and is somewhere filled with sand-dunes and numberless islands, it runs due south-west after having received the Sorbukh, and its wide, broad valley is continued, after the river has received the Khingau on the right bank, there being almost no watershed between the latter and the valley of the river Ilek which belongs to the river system of Kafirnihan.

When the little Âb-i-Garm from the Karategin mountains has flowed into the Surkhab, the latter forces its way through a ravine in the mountains where the rocky walls seem to hang over the water, and from now it is called Vakhs. The upper part of the Vakhs valley to the kishlak of Tut-kaul (possibly tut-aul = Mulberry Town) is said to be totally inaccessible or at any rate very difficult of access, which is certainly quite right, as the travellers in this region up to a very recent time, even the Russian Lipsky in 1905,

have avoided this part of the valley, and the natives on their way from Kulab to Karategin always take the circuit by the town of Faisabad in Hissar and along the Ilek river and Âb-i-Garm farther north-east. The lower part of the ravine where the way leads from Faisabad to Baldshuan, is exceedingly picturesque. Here the river flows in a sharp bend through lime rocks of the strangest formations, and across the narrowest place in the rocks, about 15 metres broad, is built a bridge, called Pul-i-sangi (The Stone Bridge). Through the ravine the river rushes with deafening din, churning its way amongst innumerable boulders, the mighty whirls and eddies being ground into foam which is thrown high aloft in the ravine. The fragments of rock which are heaped up in the ravine are smoothed and excavated by the water and the mountain material conveyed by the river is formed into the most fantastic figures. The greater part of the ravine is quite uninhabitable, but still there are in the lower part a few residences on the way by Tash-kaul to Faisabad. From about Daraut Kurgan to the outflow of the river into the Pandsh it can only be passed across the few primitive bridges or by means of inflated skins, but above Daraut Kurgan it can be traversed by several fords in the Alai steppe.

At Tut-kaul the Vakhs makes a large curve round about Savistan-tau (The Winter Mountains) and then west of the kishlak of Daganah it again runs towards the south-west between the mountains of Savistan-tau and Khodsha-mastam where its valley is not inhabited being filled with blocks of stone and rounded stones; then it flows out into a wide plain around the town of Kurgan-tubé, the old realm of Khotl. Here it divides into many arms which thoroughly moistening the plain reduce it to a boggy and unhealthy territory. The main arm of the river, dotted with small islands, is about 160 metres broad, and the banks are all covered with rushes, reeds, copse and entangled, impenetrable jungle, the haunt of the wild boar. Near Kurgan-tubé there is a gold washing station, and gold is contained in the river sand at many places from the Alai steppe to the outlet of the river into the Pandsh; there is, for that matter, goldsand here and there in the whole bed of the Amu Darya. South of Kurgan-tubé the right bank of the Vakhs is covered with dense woods of willows, poplars and pistachio trees; at the passage from Kurgan-tubé to Kabadian the river divides into several arms which give room for swampy, copse-covered islands. Small lakes occur now and then on the banks which are everywhere fenny and unhealthy.

Everywhere the Vakhs offers great hindrances to communication,

its quantity of water would be sufficient to render it navigable, but its rapid course, and the sand-dunes and boulders heaped up in its bed entirely prevent navigation. The few bridges across it are all primitive and built of trunks of trees. On their way from Kurgan-tubé to Kabadian, the Chinese are said to have built a stone bridge across the river, which the artificial heaps of stones on both sides of the river seem to prove. The whole neighbourhood is full of ruins which suggest a former higher culture. Where the course of the river is more quiet, in the broader bends, floats of inflated skins are used in ferrying, and on its nether course south of Kurgan-tubé launches drawn by horses are used.

The Vakhs receives its principal body of water from the Trans-alai glaciers and the enormous masses of snow and ice in the mountains of Peter the Great (Periokhtau), from the numerous tributaries streaming down the Alai steppe, from Muksu, whose main sources are in the Sulumart mountains around the glaciers of Pik Kaufmann, from Khingau and several small brooks which come down from the range of Peter the Great between Muksu and Khingau. The rainfall in Karategin and in the Alai mountains is in contrast to most of the other regions in Middle and Central Asia of considerable importance. Having received the Khingau the Vakhs (Surkhab) receives no other important tributaries on the left bank, from which it is easy to realize the snow conditions in the mountains between Pandsh, Khingau and Vakhs; indeed, west of the meridian of Garm the perpetual snow disappears in the Pamir mountains. The tributaries from the north and the west are on the whole short and sparse and the affluents from eastern Alai and Kitshik Alai are all short and do not convey water all the year through. In West Alai, between Karamuk and the Pakshif pass, which leads from the Surkhab valley to the upper Serafshan valley, three rivers which are short but abounding in water, nevertheless contribute considerably towards the main river. Of these the Âb-i-sanku and the Âb-i-kabud are mentioned in the following travels. The third, Surkhab, west of Garm Âb-i-Garm, which forces its way through the Ilek mountains, a brook from the Ilek mountains between Kodsha-mastam and Gasi-mailek and an affluent from this chain, the two latter flowing out into the swampy arms on the right bank of the Vakhs north of Kurgan-tubé, are the last tributary streams to the huge river whose valley except Karategin and the lower valley at Kurgan-tubé and farther south is sparsely populated or quite uninhabited and not suitable for agriculture.

The Sorbukh-River. With the line of Sorbukh-Vakhs we have reached a westerly line of separation between the Alai mountains and Pamir mountains on the one and the Bokharan Hissar mountains on the other side. Perhaps it is a question at issue, whether the north-western boundary of the Surkhab-Vakhs, the Karategin and Ilek mountains with their south-western spurs between the rivers Vakhs and Kafirnihan ought to be counted to the Alai or the Hissar mountains. The north-easterly part of the Karategin mountains begins at the Pakshif pass and is very markedly separated from Alai by the Sorbukh valley, although it looks, indeed, on the last Russian maps as if the Karategin mountains north of the sources of the Sorbukh are connected with the Alai mountains. I consider the valleys of the Sorbukh and the Vakhs as the western boundary of the Bokharan Pamir mountains, and refer the mountains west of them to the Hissar mountains, but I will observe at the same time that on describing the tributary streams on the right side of the Vakhs we are in the Bokharan Hissar mountains.

The Sorbukh is the largest tributary stream to the Surkhab on the right bank; its whole course runs within Bokharan territory and has its beginning at the Pakshif pass where is the boundary between Russia and Bokhara. Its upper course and one of its upper tributaries on the left bank are called Gorif. The Pakshif pass, 3660 metres, is traversed on the way from Karategin (Garm) to the Serafshan valley. Pakshif is the route most used here and is passed by numerous caravans. The route along the Sorbukh is not difficult; the pass itself is cut deeply down and covered with a rich growth of grass and flowers. From the top of the pass down towards Serafshan one has to cross a steep little glacier, and from here the way goes by a zigzag path down into the valley. West of Pakshif is enthroned a considerable mountain colossus, Gulbas, belonging to the most easterly part of the Hissar range, rising to above 5000 metres and covered by perpetual snow. From one of the upper tributaries of the Sorbukh (Gorif) one arrives by the pass in Gulbas, Kausga, to the Yaghnob valley (tributary of Serafshan). From another main source on the left side of the Sorbukh, Âb-i-Duburg, another passage leads across the so-called Vadif pass to Serafshan. After the outflow of the Âb-i-Duburg into the Gorif, the river is called Sorbukh. From the left it receives the tributary Kamaran-su, whose banks like those of the lower Sorbukh have fertile loess terraces with numerous kishlaks. On the middle course of the Sorbukh the valley narrows, its sides standing like

steep slopes where avalanches and mountain slips render the passages dangerous in spring. The slopes are here and there covered with real woods of wild fruit trees among which the small light Karateginian bear has its caves. On its mouth about 20 kilometres west of Garm the Sorbukh divides into several arms whose beds are filled up with pebbles covering the bottom; at most seasons its fords can be passed, but at high water gupsars must be resorted to. The Sorbukh has a joint length from the Pakshif pass to Surkhab of about 60 kilometres, and on this stretch its fall is about 39 metres in 1 kilometer, its mouth being situated at a height of about 1300 metres. The name of Sorbukh is possibly derived from the word of sor (red) and bukh, bakh or bâgh (garden), the whole of the name alluding to the flowering red orchards growing wildly on its banks.

Âb-i-Garm. About 50 kilometres below the Sorbukh the river Âb-i-Garm flows into the Surkhab-Vakhs; with its two main sources it comes down from the pass of Gleni-Kush and the pass of Tuvis-bala in the Karategin mountains; both the valley of this river and those of about 10 smaller mountain brooks which flow out into the right and left bank between Garm and Âb-i-Garm, have sparsely cultivated banks and few small kishlaks, and the two tributaries from the north pouring their waters into the fens at Kurgan-tubé have sparsely populated banks. Along both of the latter valleys, where there is a sporadic population on the whole of the river courses, there are easy passages to the towns of Dushambé, Kafirnihan and Faisabad, for the westerly across the pass at the kishlak of Ingishka, about 1130 metres, and for the easterly across the pass of Sardalu (Apricot) about 1500 metres, which shows us that the ascent from the valley of the Vakhs river at Kurgan-tubé, about 460 metres, to the upper parts of the river Kafirnihan, is only about 700—1000 metres. The more westerly passage is the main route between these larger towns of East Bokhara.

Although the banks of the Vakhs (Kizil-su—Surkhab) are on its middle and lower course uninhabitable and uninhabited, many people find their food in its valley. Numberless Kirghiz nomadize on the Alai steppe about the Kizil-su on Russian territory, many Kirghiz auls occur on the lower Kizil-su and the upper Surkhab. The Karateginian kishlaks which are chiefly populated by Tadjiks and a few Usbegs lie close together, and on the Vakhs itself and its tributaries live in part Tadjiks, in part Usbegs, who in summer lead

a half nomadic life in their Ailâks or Yailâks, and finally on its lower couse occur some Turkomans who have their winter villages round about in the valleys. The word of Vakhs is supposed to be of old Iranian origin and to be connected with the Siaposh in Kafiristan who, as I have shown in my book "Vakhan and Garan" have at any rate formerly lived in Vakhan. The old name of Oxus or Amu Darya was Vakhshu.

MOUNTAIN BOKHARA

THE BOKHARAN HISSAR MOUNTAINS

In a preceding section I have spoken of the line: the Pakshif pass—Sorbukh-Vakhs as a line of separation between the Bokharan Pamir mountains and Alai and the Bokharan Hissar mountains; orographically this is not correct, and I have only done so to facilitate the survey of the intricate mountain conditions. Passing now to a description of the Hissar mountains with their south-westerly branches, I must premise that the Hissar chain itself which forms the watershed between the tributaries of the Serafshan and the Amu Darya begins already in the so-called Matsha mountain-district with the Matsha glacier where the river Matsha, the uppermost source of the Serafshan, rises. The frontier towards Russia exactly follows the crest of the Hissar chain from the pass of Matsha where the Alai chain ends and the Hissar chain and the Turkestan chain north of the Serafshan begin; first it goes westward over the pass of Fiturak to the pass of Pakshif where the Serafshan chain between the rivers Saghnau or Yaghnob and Serafshan separates at the mountain knot of Gulbas (The Flower Top), from here the Hissar crest and the frontier run towards the south-west to the sources of the river Kafirnihan, westward across the Ansop pass to the Mura pass, and from here to the north-west to the mountain knot of Hasreti Sultan (The Sublime, Sacred Prince), where the proper Hissar chain ends in the west. From Hasreti Sultan the frontier with a northerly curve passes east of the tributaries of the Kashka Darya, by the pass of Takhta-karatsha in Samarkand-tau following the watershed between the north and the south by the kishlak of Dyam due west to the sixty sixth meridian, from here to the north to the kishlak of Sengir-bulak and in several

curvatures through the low hills south of the Serafshan between the towns of Katta Kurgan and Siah-eddin to the kishlak of Sarabulak on the railway west of Katta Kurgan.

The Hissar Chain whose length is about 300 kilometres, counting from the Matsha pass, has throughout its whole extension the character of an immense imposing chain whose crests are never below the regions of the perpetual snow, the average height of the highest tops being between 5 and 6000 metres.

Whilst the Hissar range rises immediately as one ridge from the valleys in the north, from the Yaghnob and Iskandár-darya (Iskandár is the name of the natives for Alexander the Great), its eastern part is to the south followed by the parallel chain, the Karategin mountains, which make the boundary of the right bank of the Surkhab and end on the upper course of the river Kafirnihan. Some authors make them continue farther west south of the Hissar chain by the mountains round Dushambé and Karatagh (The Black Mountains), which does not appear, however, from the later Russian maps. The mountain range of Hasreti Sultan belongs to the most eminent mountain parts of the Hissar chain. Its height is given as about 6000 metres, on the Russian maps as 15000 English feet, and it forms a very distinct watershed between the tributaries of three of the most salutary rivers of Central Asia, the Serafshan, Kashka Darya and Amu Darya, whose sources flow down from its snow-clad peaks. On its north side are the sources of the rivers Kshut and Maghian (tributaries of the Serafshan), in the west are the beginnings of the sources of Kashka Darya, and towards the east mountain brooks run down to the Iskandár-darya. At Hasreti Sultan the Hissar chain sends forth a widely branched, fanshaped mountain formation towards the south-southwest which passes by degrees into the level country along the Shirabad-darya, between this river and Surkhan still proceeding as low hills southward and southwestward to Shirabad and Kelif and in the west to the regions round Gusar.

The most important of these south-westerly Hissar mountains is the Baissun chain which is followed both to the east and west by numerous parallel chains, and falls from a height of 17—1800 metres on the sources of the Gusar-darya to about 1500 metres west of Baissun and to 305 metres at the town of Kelif on the bank of Amu Darya; it separates the valleys of Shirabad-darya and Kashka Darya.

From Hasreti Sultan long spurs run down towards the upper valley of Surkhan, and the chain is also connected with the mountains between the rivers Kshut and Maghian, along which there are passages which lead from the Serafshan to the Kashka Darya. The chain between Kshut and Maghian is called Obi-taghasan (Ob = Âb = Water). In the west Hasreti Sultan is connected with the long low chain the whole of which is usually called Samarkand-tau (tau = tagh = mountain), and which embraces with a southern curve the fertile oasis round Samarkand. Samarkand-tau has many various local names, thus on the upper course of the Maghian Shum-rakhna, 3350 metres, on the upper course of the Kashka Darya Sanganaktji (Stony Mountains), Kuh-i-surkh (Red Mountains), Kirrtau (Desolate, Vegetationless Mountains). South-west of Samarkand it is called Ak-tau (White Mountains). Finally south-west of Katta Kurgan where Samarkand-tau ends in several low hills running mainly from east to west it bears the names, counted from north to south, of Kalta-tau (Short Mountains), Shahr-shahr, again Kalta-tau, further Tim-tau and Karatsha.

Across the mighty Hissar crest (Hissar means Castle or Palace), which forms a considerable hindrance to the intercourse between people in East Bokhara and Turkestan, lead a considerable number of passes, practically all of them difficult of ascent. Beginning in the east, we meet about 10 kilometres west of the Pakshif pass the pass of Kausrga which leads from the sources of the Yaghnob to the river Sorbukh in Karategin. This pass is very difficult of access, the route traverses the perpetual snow, and it is almost exclusively employed by the Usbegic nomads. About 24 kilometres farther west the pass of Sakh-ob again leads across perpetual snow from the uppermost valley of the Yaghnob to the river Kalta-kul (Short Lake or Short River), tributary of the upper course of the Kafirnihan. Like Kausrga this pass is only employed by the nomadic population. Both passes lead respectively across the east and west end of the mountain knot of Gulbas, and presumably both of them exceed 5200 metres. About 21 kilometres farther west we meet the pass of Hakh which leads from the well peopled upper part of the Yaghnob valley (Yaghnob or Yaghnau means Ice River) to one of the main sources of the Kafirnihan, Sarda-i-miona, and further on to the larger towns in the Hissar district. The pass of Hakh is reached from the Yaghnob valley by the kishlaks of Dehikalan (The Large Village) and Novobot through a narrow ravine on the mountain brook Bitshan; about 16 kilometres farther

west the pass of Arkhu, about 10 kilometres farther west the pass of Ardila-kul, and again 10 kilometres west of the latter the Arba-kul pass (The Carriage Lake), 4481 metres, lead from tributaries of the Yaghnob across the Hissar crest to tributaries of the upper course of the Kafirnihan. The last pass is much employed in spite of the perpetual snow in the pass itself. The way from the Yaghnob valley to the pass traverses the Mogabi ravine, and having traversed the pass the way turns west by the kishlaks of Kök tépé (Blue or Green Hill) and Ibol, at which latter one meets the passage about 16 kilometres more westerly which leads across the much employed Ansop pass, 3731 metres, along the tributary of the Yaghnob of the same name to the river Sigdi-darya, one of the main sources of Kafirnihan. Between the passes of Arba-kul and Ansop is another passage which leads across glaciers. From the kishlak of Ansop issue several passages southward across the Hissar crest, thus besides Ansop the more westerly neighbouring passes of Kshirr and Shutur, 3444 metres, all leading to the valley of Sigdi-darya. Ansop is the easiest and most employed. The distance from the kishlak of Ansop to the kishlak of Namasga (The Place of Prayer), 1951 metres, on the Sigdi-darya, only comes to about 19 kilometres. From the Shutur pass, about 19 kilometres west of Ansop pass, and up to the well known Mura pass, about 37 kilometres farther west, the Hissar crest is very litte known; on this stretch it is called Hanaká and has everywhere a wildly romantic and exceedingly picturesque appearance with snow- and glacier-clad peaks. Between the two latter passes is the passage of Hanaká, up to the present date known only by native nomads.

Best known is the Mura pass, 3710 metres, which forms the shortest connection between the towns on the Serafshan river and the East Bokharan towns on the upper Surkhan river. The road leads from the Serafshan valley along the Iskandár-darya and its tributary Mura. The route along the Iskandár-darya to Iskandár-Kul, 2119 metres, is exceedingly troublesome, traversing sharply jagged peaks; from here is an easy route along the river Sary-tagh (Yellow Mountain), then it turns south to a small constantly frozen lake, the circuit of which is about 4—500 metres, and further on one has to climb extremely difficult paths, partly across perpetual snow, to the Mura pass. The descent southward goes steeply down to the kishlak of Hakimi and further to the well known industrial town of Karatagh (Black Mountain) which was destroyed

by an earthquake at the end of October 1907. From the Mura pass, which has been traversed by several European travellers, to Hasreti Sultan there are no known passes across the range which seems inaccessible here or at any rate exceedingly difficult of ascent. Only west of the snow peak of Hasreti Sultan the Hissar chain falls rather considerably and suddenly, and now there are to the west and farther on in Samarkand-tau several passes and these easier than the easterly named here, all of which without any exception must be designated as difficult of access either owing to the steepness of the ascents or to glaciers and snow. In the winter all must be considered inaccessible wherefore the accesses between Turkestan, the East Bokharan mountain towns and Karategin are at this season practically barred.

West of Hasreti Sultan the passes of Bâibutshi-kutan (probably kutal = pass), 3319 metres, Shakhvas and Rabat, all close together, connect the valley of the river Djin-darya (The Spirit River, one of the main sources of the Kashka Darya) with the upper Maghian valley. These passes and two others just west of them, the one on the Djin-darya, the other at the kishlaks of Kuji Mussa-basar and Yokary Mussa-basar (Lower and Upper Mussa-basar), about 1830 metres, on the uppermost course of Kashka Darya are the most important and easiest accesses from the fertile level country round Shahr-i-sebbs and Kitab etc. across the Hissar chain along the Maghian river to the lower mountain valley of the Serafshan east of the oasis of Samarkand.

Samarkand-tau. On proceeding westward from Hasreti Sultan into Samarkand-tau, the perpetual snow disappears from the crests of the mountains. Samarkand-tau in whose easterly part perpetual snow still occurs, flattens out by degrees into dry, poor steppes. There are, indeed, in Samarkand-tau several small rivers on whose course corn is grown by means of artificial irrigation, but the residences are few and small, and the mountain territory on the whole poor, desolate and dreary; the upper valleys are here and there covered with thorny copse, willows and poplars, the lower which in the west are best characterized as rounded, flat hills have poor steppe vegetation or desert character. Samarkand-tau which forms the watershed between the tributaries of the oasis of Samarkand and those of Kashka Darya begins in the east on the Maghian river and is the extreme westerly spur from the Pamir countries and the East Bokharan mountains. Only to the east it

is higher and here and there covered with perpetual snow, to the west it never exceeds 2400 metres. Between the Maghian and the pass at Dyam it has a length of about 150 kilometres, and its breadth exceeds about 25 kilometres. In some places it falls steeply down to the level country, the tops are generally rounded cupolae or farther west flat hills, here and there covered with poor thorny copse and juniper bushes.

In the easterly part of Samarkand-tau where the chain under the name of Kirr-tau (The Desolate Mountains) forms the northern boundary of the valley of Kashka Darya, the pass conditions are still rather difficult, and in this range but one pass can be employed between the kishlaks of Mussa-basar and the route from Kitab to Samarkand, viz. Sarik-tal (Yellow Pass) at a distance of about 9 kilometres from the isolated mountain peak of Kuh-i-surkh (Red Mountain). By this pass the distance from the valley of Kashka Darya to the level country round Samarkand is only 18 kilometres. West of Sarik-tal we meet one of the most important caravan routes or thoroughfares of commerce from Turkestan to the large Bokharan towns on the Kashka Darya, namely the route from Kitab across the pass of Takhta-karatsha, 1676 metres. This passage has been improved by the natives, when Samarkand was in the possession of the Emirs, and later by the Russians, so that it is easily passable from Samarkand across Kara-tubé to Kitab and further to the oasis towns on the Kashka Darya. East of the pass a short cut can be taken across the pass of Shahak about 2 kilometres farther east. From the granite planes of the pass of Takhta-karatsha there is a splendid view across the regions at Shahar-i-sebbs. West of the thoroughfare of commerce named here, which has been much frequented from time immemorial, there are numberless passages across Samarkand-tau from the Kashka Darya valley to the Serafshan oasis round Samarkand. The routes here traverse poor steppes or desertlike regions along the sources, and along the small brooks in the mountains they lead through a dreary and tedious landscape.

Of the westerly routes across Samarkand-tau we must also notice that which leads by the kishlak of Dyam from Samarkand to Karshi, being a much frequented thoroughfare of commerce which is now so far improved that it can easily be passed in carriages through its whole length. From Samarkand the way first takes a south-westerly direction, then it leads along Samarkand-tau, here consisting of granite masses, then southward to the Dyam whose valley is covered with

loess. South of the Dyam begins the desolate undulating steppe which passes into more and more sandy desert towards Karshi. Before Karshi one has to cross a range of hills, about 100 metres high, Kungur-tau, from which is seen the splendid oasis of Karshi covered with corn-fields and orchards.

After this short survey of the Hissar chain we pass to the description of the tributaries which flow down through the oases of East Bokhara to the renowned cultured regions of Amu Darya and Kashka Darya.

The River Kafirnihan whose name means the residence of the infidels (Kafir is the usual term of abuse for Non-Mussulmen) has its beginning in the Hissar range from several sources. The most considerable of these is Raumit-darya, possibly called after a kishlak, Raumit, situate on its middle course. Raumit-darya rises from two rivers of which the more easterly, Sorbo, has its beginning in the mountain knot of Gulbas south-west of the Pakshif pass, the more westerly Sarda-i-Miona in the above mentioned passes of Sakh-ob and Hakh. Both of these rivers flow through narrow ravines in which there are many extensions where the numerous short mountain brooks on their way down form terraces of deposited material which is fit for growing of corn when artifically irrigated, and where the many small kishlaks populated by Tadjiks are surrounded by fields and gardens. After the junction of the two rivers the river is called Raumit-darya and runs due south-west through a narrow mountain valley to the town of Kafirnihan. To this part of the valley as well as to the upper tributaries a great many small mountain brooks stream down from the Hissar and Karategin chains, and from them the small kishlaks on the river banks receive plenty of water.

Having left the narrow mountain valley at the town of Kafirnihan, which it traverses, the river runs south-west and west-south-west to the town of Hissar (Castle) through a broad and fertile valley. There are everywhere well watered fields with rice and cotton, gardens and melon plantations, mulberry, fig, apricot and peach trees which thrive exceedingly well together with many other kinds of fruit-trees, but the region is very unhealthy, and fever often rages among the natives and forces them to wander up into the mountains in summer; there they lead a nomadic life with their cattle in Ailâks.

From the left the Kafirnihan receives the river Ilek which has its

beginning near the pass of Artsha-i-shahi and flows through a very fertile and well cultivated valley whose main town is Faisabad (about 10000 inhabitants). From the right between the towns of Kafirnihan and Dushambé it receives from the Hissar range many smaller tributaries whose valleys are cultivated and inhabited. The most considerable affluents to the Kafirnihan from the Hissar range are the Sigdi-darya and the Khanake-darya. The former has its beginning from the passes of Agba-kul, 3871 metres, and Ansop, and its main and many side-valleys are cultivated almost as far up as the passages, but the connection between the villages leads through narrow ravines difficult of access where fragments of rock which have rolled down impede the passage. The Sigdi-darya conveys much water on its rapid course, rushing in cataracts over blocks of stone and churning the water into foam. On a stretch of about 85 kilometres from its beginning to its outlet into the level country between Kafirnihan and Hissar it has a fall of about 3050 metres, about 36 metres in 1 kilometre. At the town of Dushambé, where a Beg resides under the Beg in Hissar as in Kafirnihan and Faisabad, it issues from the mountains and divides into two or more arms whose banks are uninhabited and not fit for cultivation.

Dushambé is a very old town of commerce. It has a castle which like all other Bokharan castles is quite mediæval in appearance. It is surrounded by high walls with towers and bastions and looks very picturesque owing to its high situation on the steep slopes on the river from where it commands the town around it. At Dushambé is a ford across the Sigdi-darya which, by the way, is said to be very perilous and passable at few seasons of the year owing to the high water of the river. Across the upper part of the river are now and then primitive bridges, elsewhere inflated skins are used in ferrying the river.

About 13 kilometres west of the outlet of the Sigdi-darya, the Khanake-darya throws its water into the Kafirnihan having run due south through a well inhabited, but narrow mountain valley. On its outlet into the level country it divides into two arms of which the more easterly traverses the Hissar oasis. South of the latter they meet and run to the Kafirnihan. Its length is about 43 kilometres. On its arrival to the level country, this is like the easterly parts round Kafirnihan and Faisabad exceedingly fertile; rice-fields and gardens cover the country round Hissar, but the plentiful irrigation of the territory often changes it into fens and the consequence is a fever-stricken climate, which in summer chases, so to

speak, the population of the Hissar oasis up into the mountains, and only very few old people who cannot stand the mountain expeditions remain in Hissar at this period. Even the Bokharan Beg in Hissar, in former times residing in his fortified castle from which he governed the whole of the Hissar district under the Emir of Bokhara, has removed his residence to the town of Karatagh on the Surkhan which runs west of the town.

At Hissar the Kafirnihan turns south between the mountains of Babatagh and Gas-i-mailek; here the valley is almost desolate and devoid of vegetation. South of Hissar there are still on a short stretch arable soil and grass-fields, thus round the fortress of Tash-kala (Stone Fortress), which is a sort of advanced fortress just south of Hissar, built to stop the access from the south towards the Hissar fortress; but farther south towards Kabadian the territory is desolate, the subsoil being red clay and stone-masses on which there is but a sparse growth of tufts and camelthorn.

The river has a rapid course; here and there it forms waterfalls, and it is very difficult of passage. The bridle-path exclusively follows the right bank of the river from Hissar to somewhat above Kabadian. On this route we come across rich deposits of rock-salt in the district of Shuryan (Shor means Salt) one day's march south of Hissar. At the mountain village of Ak-meshed (White Mosque), a poor village, whose Usbegic inhabitants live in summer as nomads in Babatagh with their goats and sheep, there being here in the many ravines a considerable tree-growth of juniper and pistachio, is a ferry across the river; one route leads here from the kishlak of Shorsha on the Surkhan river across the southerly part of Babatagh, another from the kishlak of Paisabá on the Surkhan across the pass of Tjaraga in Babatagh. Thus Ak-meshed is a junction for the ways between the middle courses of the Surkhan and Kafirnihan, and from Ak-meshed issues another way across Gas-i-mailek to the Vakhs and the fens round Kurgan-tübé. In Ak-meshed resides an Amlekdar, a sort of lower Beg, who administrates the neighbouring regions. No bridge across the river is to be found, only a ford, where the water rises above the belly of the horse even in the dry season.

The valley of Kafirnihan now widens out to a plain of a breadth of about 17 kilometres, again narrows at the kishlak of Gulgultut (The Rose and Mulberry Village) to a breadth of 4 kilometres and then again widens out to about 17 kilometres. Here are ruins of the castle of Ishkovat round which is cultivated soil

with aryks (watering channels) and rice-fields. The valley now again narrows to about 10 kilometres between the mountains of Gas-i-mailek and Baba-tagh, and about 20 kilometres north of Kabadian is the end of the district of the Beg of Hissar. Farther south the valley like the ravines of Baba-tau is covered with numerous small groves, the so-called togai, which mainly consist of willows, poplars, mulberry, dshidda and thorny copse. The kishlaks, here inhabited by Usbegs, become more and more numerous according as the valley widens round the town of Kabadian which has a picturesque site at the foot of the Kabadian mountains with fertile well watered gardens and fields round about. The river here divides into two arms of which one runs through the Kabadian oasis. The easterly part of the Kafirnihan valley now has steppe character and is only inhabited by nomadizing Usbegs who live in tents, but on the right bank many kishlaks still occur with well cultivated fields up to a distance of about 16 kilometres from the outlet of the Kafirnihan into the Amu Darya where the valley has the character of dry steppe or desert.

The territory between the rivers Ilek—Kafirnihan is filled up by low ranges, namely between the Ilek and Vakhs the Ilek mountains whose south-western elongation is formed by two branches, the shorter Khodsha-mastam whose height exceeds hardly about 1500 metres — it ends at the bend of the Vakhs just north of Kurgan-tubé — and the longer westerly branch, Gas-i-mailek, which forms the eastern boundary of the Kafirnihan valley, and the height of which is 2—3000 metres. The south-westerly part of Gas-i-mailek is called Dshityn-tau which a little south of Kabadian passes into the level country on the Amu Darya. Between Khodsha-mastam and Gas-i-mailek is a rather extensive valley traversed by a few small rivers whose water is consumed in irrigation of fields and gardens grouped round about some poor kishlaks.

The Surkhan-darya is the most important tributary of the Amu Darya. If we consider the Obi-Dikhan or Obi-Dikhan-darya, as it is called on the Russian maps (both Ob or Âb and Darya mean river and Dikhan or Dekhan means agriculturist) which has its beginning west of the Mura pass in the Hissar mountains, as its main source, it has from here to its outlet into the Amu Darya a length of 234 kilometres and a fall on this stretch of about 3700 metres or some 19 metres in one kilometer. (In the length of the river is not included the immense number of curvatures occurring

on the whole of its length; for the river is remarkable in that its course is not straight at any point). Having received a small easterly tributary from the Mura pass the Obi-Dikhan flows through a wild ravine past the town of Karatagh into the widest level country of the Hissar district where the towns of Regar, Saryjui (Yellow Place), Sary-assiya, Denau, Yurtshi and numerous kishlaks with fertile gardens and fields are situated in a well watered loess territory. The body of water of the river is very great and as early as on its outlet into the Hissar mountains there are no fords. Even on its upper course in the Hissar range there are several small kishlaks on the mountain terraces; the uppermost of these is Khakimi, by which the route northward to the Serafshan valley leads across the Mura pass and Iskandár-kul.

The wide, fertile, well peopled lowland from the town of Karatagh to the kishlak of Khodsha-milk or -mulk on the left bank of the Surkhan where the valley narrows again, has a length of about 95 kilometres and at Saryjui a breadth of some 30 kilometres. Down to this flat country run from Hasreti Sultan and the Baissun mountains several rapid mountain rivers abounding with water on which the kishlaks occur in great numbers up to the pass crests. West of the Karatagh-darya from the southern spur of the Hissar range several considerable streams run down into the oases round the towns of Regar and Sary-assiya; their water being consumed in irrigation of the plain they disappear in fens with vegetation of reeds and pools without reaching the Surkhan. The first tributary which flows into the Surkhan is the rapid Turpalan abounding with water; with waterfalls and cascades it rushes with resounding uproar down through a wild, romantic and exceedingly beautiful mountain valley past the town of Saryjui, near which is the most beautiful waterfall.

The Turpalan has many sources of which the most easterly has its beginning from the pass of Siyak or Siah-kuh (Black Mountain) which east of Hasreti Sultan admits passage to the Shink river and the Serafshan valley. It runs due south. To its right side stream from the Baissun range the rivers Shat-urut and Tshash from passes of the same name; through these passes there are paths from the Surkhan valley across the Baissun range to the main sources of the Kashka Darya. The joint river is now called Turpalan. Both on the main river and its tributaries lives a population which consists af agriculturists and nomads. Up to Saryjui where the Turpalan leaves the mountains it can here and there be passed on

horseback. At Saryjui it has a breadth of some 40 metres, and farther south no fords occur.

Only about 5 kilometres south of the outlet of the Turpalan the next large mountain stream empties itself into the Surkhan, namely the Sang-gardak (Sang means stone) which has its beginning near the pass of Lagari-murda in the Baissun range. On its upper course it forces its way through the narrow Bakhtja ravine, only some 5—7 metres broad after which the river is called Bakhtjasai. The way which follows the Sang-gardak across Lagari-murda to the Kashka Darya is very toilsome here. It passes along dizzy precipices and crosses the river no end of times up to the kishlak of Bakhtja, which is situated in a small extension, and as far as the kishlak of Sang-gardak it is still exceedingly difficult. From the Bakhtja ravine itself, which is only about 60 metres long, the mountain valley has a beautiful vegetation of maple, wild apple and pear trees, honeysuckle, willow, roses and other bushes. The banks of the middle course of the river are narrow and not fit for cultivation, only near the kishlak of Dagana, some 35 kilometres from the outlet into the Surkhan, corn is again observed growing round many kishlaks as far as the town of Yurtshi. From this town water is led in a channel to Deh-nau or Dehi-nau (The New Town), situated about 10 kilometres south of Yurtshi in the middle of the Hissar plain.

About 24 kilometres south of the outlet of the Sang-gardak another river from Baissun-tau, the Kardirshah, pours its considerable body of water into the Surkhan. The Kadirshah has its beginning from a ramified net of sources whose valleys give shelter to half a score of small kishlaks. Then it runs through a desolate uninhabited ravine in the Baissun mountains at whose foot much of its water is consumed in the irrigation of fields and gardens round a group of kishlaks. Here it divides into two arms both of which reach the Surkhan. North and south of the outlet of the Kardirshah on the left bank of the Surkhan, in whose northern part there are no other resident people, occur a collection of Usbegic kishlaks whose fields are irrigated by channels from the Surkhan itself.

Near the outlet of the Kardirshah for a stretch of about 35 kilometres the south-eastern spurs of the Baissun mountains again approach the banks of the Surkhan, and then the lowland with its drifting sands, the deserts of Kizil Kum (Red Sand) and Patta Kum (Patta means wild roses and indicates the sporadic occurrence of

the latter in the desert) is desolate and uninhabited up to the bank of the Amu Darya. From the spurs of Baissun-tau the Surkhan receives its last tributary, the Baissun-darya, which runs past the town of Baissun. It has two main sources whose valleys are cultivated, whereas the whole of its middle and lower river valley is waste and uninhabited. The river Kara-kush (The Eagle) which has its beginning just south of Baissun does not reach the Surkhan.

South of the fertile region round the town of Deh-nau the Surkhan valley itself becomes more and more desolate, but this has not always been the case, for the broad valley, fit for the growing of corn, was once canalized from Sang-gardak far south where numerous remnants of former culture occur even in the present deserts on the Amu Darya.

The Surkhan has two bank terraces, the upper consisting of red tertiary sandstone, and the lower, past which the river runs, of post-tertiary loess and conglomerate. The terraces are naked and desolate whereas the alluvium on the banks displays a fine vegetation in many places. On the right side of the river the banks are generally flat and swampy, covered with reeds, bushes and jungle, the haunt of tigers, wild boars, jackals and water-fowl. Some 15 kilometres from the mouth of the river the swampy character of the bank becomes especially prominent; here the river often overflows its banks, and the putrefying water which occasions fever renders the country dangerous. Far south on its outlet into the Amu it ends in waterless desert, where the quick-sand forms dunes (Barkhans), about 20 metres high, and long sand ridges which follow the Amu Darya half-way to the river Shirabad-darya.

Here, where there is now nothing but desert, drifting sands and in summer an intolerable heat, there was formerly on the lower course of the Surkhan a considerable culture; both east and west of the river are seen remnants of irrigating channels, mosques, porches, pillars, mausolea, and a minaret about 20 metres high. Everywhere glazed tiles occur together with shreds of jars and pots. The ruins of Shahar-i-Gulgula near Ak-Kurgan (White Fortress) especially are said to be very imposing. Further Shahar-i-Samané some 5 kilometres south-west of the Usbegic kishlak of Salavat where there is still a well kept mausoleum, probably the tomb of Hussein, and Termedh, sometime a flourishing town with its fortress, of which now only a part of the walls remains, but which defended then a much used passage across the Amu Darya to Afghan Turkestan. Termedh was destroyed by the hordes

of Jenghis Khan in 1220 and rebuilt farther north. This younger Termedh is described by Ibn Batu (1345) as a large, populous and flourishing commercial town. All this culture is now hidden more and more below the sand desert, and among the ruins live only some few Usbegs. Just west of the outlet of the Surkhan is the ferry of Patta-hissar (or perhaps gusar = ferry) across which the caravans are led to Mazar-i-sherif (The Tombs Of The Saint or Noble Men) and the old Balkh or Balikh (Capital) in Afghan Turkestan.

Baba-tagh (or -tau). Without any proper connection with the Hissar range from which they are separated by the broad Hissar plain, the Baba-tagh or -tau (The Grandfather Mountains) run from north north east to south south west between the Kafirnihan, Surkhan and Amu Darya. Its most northerly part only consists of one ridge, Baba-tau, passing just alongside the Kafirnihan down to whose valley it descends with a steep incline, whereas it slopes more gently down to the Surkhan valley with many transverse ridges. Some 45 kilometres north-west of Kabadian it divides into two lower ranges: Ak-tau, following the course of the Surkhan to the kishlak of Salavat and farther east going sheer down to the Amu Darya, and the Kabadian mountains with the local names of Darasa-tau and Kaika-tau along the Kafirnihan. Like the other East Bokharan mountains which run in the same direction as Baba-tau these mountains have their highest altitudes in the north-east, namely 2—3000 metres, and flatten more and more south-westward, where the two most southerly spurs, the Ak-tau and Kabadian mountains, embrace a desolate and sterile country from which only now and then in spring after heavy snow-falls in winter sparse brooks come down to the Amu Darya. The northern part of Baba-tau has a rather rich growth of trees, principally pistachio, on its north slopes whereas its south-westerly parts are sparsely grown. Between the lower valleys of the Kafirnihan and Surkhan an easily passable route leads across Baba-tau north of the town of Kabadian to the Bokharan fortress of Kokait on the Surkhan and further by Shirabad to Kelif on the Amu Darya.

The Surkhan-darya is the last important tributary of the Amu Darya before the latter must force its way through desolate, sterile regions to the Aral lake; still, it sometimes receives a supply of water from the above mentioned Baissun-tau which with a main ridge and an intricate chaos of numerous parallel ranges reaches from Hasreti

Sultan to the Amu Darya at Kelif, namely from the rivers Shirabad-darya and Kelif-darya.

Baissun-tau. Of the numerous and in part but little known risings in the Baissun-tau system, strictly speaking only the Baissun range itself deserves the name of mountain chain. It forms the spine of the system, and it is only here that older species of stones appear, in its northern part even granite. It forms, however, no watershed between the Kashka Darya and the Surkhan- or Shirabad-darya, as it is broken through by the tributaries of the Shirabad-darya. Baissun-tau is extremely wild and rocky, and with its immense number of cracks and clefts most of which owe their existence to the erosion of the rivers it affords a very romantic landscape whose like is hardly to be found even in higher mountain regions in Pamir. Its main direction is broken by transverse ranges which form mountain knots, sometimes plateaus, and especially on the upper course of the Shirabad-darya the mountain ridges seem to have been tossed irregularly about. The Baissun range is, however, but little known and traversed, especially in its northerly parts. Southward it decreases much in height, still, even south of the town of Shirabad it reaches a height of 2000 metres. On two routes which have been often passed Baissun-tau is well known, namely on the route from Gusar (The Ferry) by Derbent to Deh-nau and on that from Yakkabagh by the pass of Lagari-murda to Saryjui on the Surkhan-darya; we shall give further particulars of them when speaking of the river Kashka Darya.

Shirabad-darya. The Shirabad-darya rises in the main ridge of Baissun-tau near the place where the Sang-gardak and the Gusar-darya have their beginnings and runs due south about 118 kilometres to the town of Shirabad. At the kishlak of Kalamazar (The Tomb Fortress) some 19 kilometres north of Shirabad it divides into two arms of which the western runs through a narrow uninhabited mountain cleft and disappears in the sand without reaching the Amu Darya, whilst the more easterly arm, at Shirabad dividing into a fanshaped ramification of arms and channels, is generally consumed in irrigation of the oasis of Shirabad, its last branches disappearing in salt fens and pools in the sand; sometimes, however, this eastern branch at high water reaches the Amu Darya at the ferry of Kuyu-ishrab. The main source of the river is situated at a height of about 3500 metres, and at Shira-

bad it falls to 475 metres, which means a fall of about 3000 metres in a stretch of 118 kilometres or some 25 metres in 1 kilometer. The Shirabad-darya only receives one important tributary from the southern part of Baissun-tau, namely from a mountain knot in which the Kelif-darya has also its beginning. Its upper course forces its way through a desolate ravine, difficult of access, and only at the kishlak of Derbent (there are three of the same name one immediately south of the other) are the valley and the banks of its tributary inhabited by Usbegs, who live here in some 15 smaller kishlaks, of which Derbent on the route Gusar—Deh-nau has about 2500 inhabitants. The mountains on the upper course of the river are said to consist of red sandstone. In the valley there is a sporadic growth of juniper, pistachio, maple and tamarisk, but farther down, south of Derbent round about the kishlaks situated here, there is a beautiful vegetation of nut-trees and platanes and on the slopes of juniper. In several places the valley narrows to gatelike clefts formed by the erosion of the water. At high water passage is often impossible here, thus in the picturesque rock gates north of the town of Shirabad, where a little north of the town the ravine of Nan-dagan is passed, then a wide valley cauldron is reached, 3 kilometres long and 2 kilometres broad, where by a narrow rock gate, through which the water rushes on, one comes across Shirabad (The Lion Town), situated some 35 kilometres north of the Amu Darya.

Shirabad has about 4000 inhabitants, who live in the flat-roofed clay-houses of the crooked, narrow streets above which a fortress is enthroned on a rock about 40 metres high, the residence of the Bokharan Beg. Here as everywhere in the cultivated valleys the soil consists of loess, and this species of earth is continued in the steppe south of the town where at last the Amu Darya is reached across hills of drifting sand. From Shirabad one looks eastward across an endless poor steppe where sand hills shut in the horizon.

The Kelif-darya is a rather inconsiderable river; it has two main sources, the more easterly of which has its beginning near Shirabad in Khodsha-kainar, a range parallel to Baissun-tau, and the more westerly in the Baissun-tau ridge itself. Both of these river valleys, of which the more westerly is wide and open, have deposits of loess and are inhabited, sparingly, indeed, from their beginnings to the junction, then follow steppe and sand to the town of Kelif which is now, as it was formerly the ferry from

South Bokhara to Afghan Turkestan to the towns of Shibargan and Mazar-i-Sherif, whose oases are separated from the Amu Darya by a broad belt of deserts. At Kelif the regular Russian steam service ends which is kept with great difficulty almost as far as the Aral lake; sometimes, however, the steamers go on to Patta-hissar (or Patta-gusar) on the outlet of the Surkhan into the Amu Darya.

The Amu Darya from the Vakhs to the Kelif-darya. The Oxus from the outlet of the Vakhs to that of the Kelif-darya or rather to the Turkomannic boundary, a stretch of about 250 kilometres, is of great interest because the most important crossings on the route from Transoxania to Afghanistan and India are found here; this part of the Amu is also of interest with regard to a possible Russian invasion from the north to India. Here the Mongols of Jenghis Khan traversed the river, and both Timur and Nadir Shah crossed it at Kelif which is situated on the main route from Bokhara to Balkh. The banks here consist of calcareous slate and are of the same height; the river is only some 400 metres broad, and the current not stronger than that one can swim across the river by the help of inflated hides.

Above the point where the Vakhs empties itself into the Oxus, it is as yet passable here and there, thus at Sharvani some 53 kilometres above the mouth of the Surkkab and also at Hasret Imam above the outlet of the Surkhab; farther west passage is rarely possible without artificial means at low water, and then boats or floats of inflated skins must be employed. At the ferries here boats are often seen drawn across the river by horses swimming. Between the outlets of the Surkhab and the Vakhs are ferries on the route from the Tairdy mountains west of the outlet of the Koktja and on the route Faisabad—Kala to Khodsha Imam Saït and the Kundus-darya. Farther west there are ferries at the outlet of the Kafirnihan to Tash-kurgan or Khulm, at Patta-gusar, at the outlet of the Surkhan, at Kuyu-ishrab and Tshushka-gusar (The Ferry of the Wild Boars); the two latter respectively some 35 and 50 kilometres west of the outlet of the Surkhan and at the above mentioned main ferry at Kelif.

On this stretch the region of the Amu Darya affords a desolate and dreary picture. The banks are practically destitute of inhabitants, no human dwellings are seen; only fenny bogs, especially on the mouths of the tributaries, grown with reeds, rushes

and vermuth bushes alternate with sand hills which often go sheer down to the stream. About 25 kilometres from the outlet of the Vakhs some hills rise on both sides of the river, formerly one continuous range, but now broken by the waters. Here the river runs through a row of cliffs, stretching across it, and rushing down over their rocky bed its raging waters make a resounding uproar and form perilous eddies. Even somewhat above the outlet of the Kafirnihan, and almost at that of the Vakhs, the sand desert on the southern bank of the Amu begins. It is here called Kum-Balkhi (The Balkh Desert). A little west of the mouth of the Kafirnihan are the ruins of Ayivandsh (the above named ferry on the Kafirnihan) and besides this a small kishlak where some 300 Usbegs carry on a modest farming. The place is of importance being the ferry from Kabadian to Tash-kurgan (Khulm) and Mazar-i-Sherif. The river now turns north-west, up to the mouth of the Surkhan flowing through a desolate sandy region which except for a nomadic winter-camp at Khatin-rabat about 35 kilometres east of the outlet of the Surkhan is quite deserted. Sand and nothing but sand is seen round about on its banks, relieved only by a few rushes, reeds and the continual vermuth bushes. A few islands occur in the river, but at high water they are inundated. The river steadily increases in breadth to about 2 kilometres, its course becomes calmer and its banks assume the character of a distinct steppe. The territory round the fens on the outlet of the Surkhan are again desertlike and filled up with sand hills. A little below the outlet of the Surkhan is the important ferry of Patta-gusar, near which are the ruins of the above mentioned renowned town of Termedh. On the southern bank of the river we find fens of the breadth of about 3 kilometres covered with rushes and bushes which are inundated at high water in the spring, and south of them again occur the mighty sanddunes of the desert extending about 38 kilometres towards the south, then follows an open, level clay desert up to Mazar-i-Sherif.

Below Patta-gusar the river is for a long stretch dotted with islands, among which the well known Aral-paigambar (The Aral Prophet) is about 66 kilometres long and has a saint's grave, Aulia (from Aulat-i-paigambar = The Descendant of the Prophet). On both river banks there is here a stripe of alluvial clayey soil covered with vermuth, wild roses and other bushes, on the more elevated places forming an impenetrable copse while the lower regions are

marshy, partly grown with rushes and so infested with fever that even short stays are perilous here.

From the ferries of Kuyu-ishrab and Tshushka-gusar to Kelif the Amu runs almost westward. Here desert and steppe extends towards the town of Shirabad, whereas to the west at Kelif the last spurs from Baissun-tau come right down to the river. The river itself is here fringed by boggy depressions covered with rushes, the haunt of tigers, pheasants and especially many wild boars. The current is very rapid east of Kelif where some flat islands emerge from the water, which is blackish and miry owing to the large quantities of suspended matter which it carries along with it. The Amu is at least some 2 kilometres broad here, it generally overflows its banks at high water and washes away the marginal territory. To the west the sand desert again begins with its barkhans and sparse growth of saxaul.

At the important ferry at Kelif the Amu is surrounded by low hills, and its bed narrows to about 400 metres. Above this narrowing the river affords an exceedingly imposing sight, its mighty waters without the least noise welling forth in an ever winding course between the desolate greyish sandy desert to the south and the last spurs of Baissun-tau in the north. The jungle on its banks is here full of game, especially hares, partridges and wild boars. From Kelif the Amu again flows north-westward, henceforth belonging to the open country, it totally assumes the character of a steppe river, and its surroundings are flat almost up to the Aral lake, but we shall later come back to its run through the level country.

The Kashka Darya. The last river of importance coming down from the East Bokharan mountains and belonging entirely to the Khanate is the Kashka Darya which together with the Surkhan and Shirabad-darya drains the highest ridge of the Baissun range. It disappears in the sand west of Karshi, but at some remote time it has perhaps, like the Serafshan, poured its water into the Amu Darya; nothing is, however, known with certainty about this. Some are of opinion that the countries in Mid-Asia become dried up slowly, others that there is tolerable status quo, but no definite result has been attained in this respect. It may reasonably be taken for granted that the climate has undergone a change involving greater dryness, even in the historical time, but investigations on this point are even now only in their beginning. The

Kashka Darya is one of the most beneficial rivers of Bokhara, for it waters the large district of loess oases between Samarkand-tau and Baissun-tau and creates here a luxuriant culture, one of the most luxuriant and finest in Bokhara. The Serafshan oasis, the Kashka Darya oasis, the Hissar valleys and Karategin practically make up the cultured districts of the Khanate of Bokhara, compared to which all other valleys are of much less importance.

The Kashka Darya proper or the Karshi river has two main sources, the more northerly Bashir-su and the more southerly Djin-darya (The Spirit River), both of which have their beginnings in the north-western part of Hasreti Sultan, so that the uppermost sources of the river are in the Hissar range. Immediately after their rise they traverse the Beg district of Farap, an undulating plateau extending some 15 kilometres north to south, and east to west, where the kishlaks on the Djin-darya lie so close together that the cultivated stretches form an almost continuous range along the bank. In the north the mountains in Ulkhun-tagh (The Great Mountains) rise to about 2450 metres, but in the south they hardly exceed 2100 metres. A little before they gain the level country, they meet, forming a marshy territory and supplying the important oasis town of Kitab with water. The town of Shahar or Shahr (Town), a little to the south, receives its water from the Aksu which comes down from Hasreti Sultan, small affluents from the Baissun ridge near the pass of Tamshus also going to swell its waters, and from the river Thankhas which has its beginning in Baissun-tau near the mountain knot of Khodsha-gul-ata (Teacher Rose-Father). Both of the latter traverse fertile, cultivated valleys with innumerable kishlaks. The oases round Kitab and Shahar, between which the distance is only 6,4 kilometres, are continuous. The gardens and fields, irrigated by river arms and channels and encircling the numerous villages, afford a charming sight, all green as far as the eye reaches, and the whole region cultivated like a garden. The twin towns of Kitab and Shahar have therefore for a long time past been combined in one name, Shahar-sebbs, the green town (pronounced by the natives Shahrsavs), from time immemorial in all respects a centre of culture in Transoxania. In the north the district of culture extends to the foot af Samarkand-tau where the kishlak of Kainar-bulak (Boiling Spring) at a distance of about 8 kilometres from Kitab is the first reached on the way from Samarkand southward. In the south it goes as far as the kishlak of Tshim-kurgan situate at a distance of some 17 kilometres

from Shahar. South-west from Shahar the oasis is interrupted by steppe somewhat before the oasis of Tshiraktshi. The way steadily follows the left bank of the Aksu or Shahar river. At Tshiraktshi, a flourishing oasis of culture, the river has a depth of 1—2 metres and a breadth of about 50 metres. Almost half-way between Tshiraktshi and Karshi where the direction of the Kashka Darya from south-western becomes western, it receives the waters of the river Yakkabagh-darya which has its beginning in Baissun-tau at the pass of Tshas near the sources of the Turpalan. The main direction of the Yakkabagh-darya is western, its mountain valley is wide, has loess soil and is densely populated. On leaving the mountains it waters the fertile oasis the centre of which is the town of Yakkabagh, and from here the cultivated land with villages and gardens passes entirely into the northern oasis districts.

About 18 kilometres east of Karshi the Kashka Darya receives the river Gusar-darya which flows down from Baissun-tau. It has two main sources, Katta-urun-darya (probably The Large Pass River) which has its beginning just west of the sources of the Sang-gardak, and Kitshi- or Kitshik-urun-darya (Little Pass River) which has its beginning near the sources of the Shirabad-darya. After the confluence of these two rivers on their emergence from the mountains some 18 kilometres east of the town of Gusar on the left bank of the river, they water under the name of Gusar-darya the fertile oasis of Gusar whose district of culture extends about 17 kilometres towards the north-west, covering an area of a breadth of some 16 kilometres from north to south where the fields of the numerous villages are irrigated by the many arms of the river and the channels led from them. Hereafter the Gusar-darya only consists of one arm which traverses uninhabited steppe regions up to the Kashka Darya.

When the Kashka Darya has left the oasis of Tshiraktshi the broad oasis along the river contracts very much to the west, still continuing along its banks as far as Karshi. Here is kishlak beside kishlak, small copses and gardens and fields with wheat, cotton, tobacco and rice are seen everywhere. The distance between Tshiraktshi and Karshi is about 75 kilometres; the main route does not follow the Kashka Darya, first passing southward from Tshiraktshi to the Yakkabagh-darya across oases with kishlaks alternating with steppes, then almost westward along the Yakkabagh-darya which it crosses twice, and along the southern bank of the Kashka Darya to Karshi.

The Karshi oasis has an extension from east to west of about 35 kilometres, and with its magnificent loess soil which is irrigated by numerous channels, it is unusually fertile. About 11 kilometres north-west of the town the Kashka Darya is lost in the sand in salt fens and pools; still, its bed can be traced as far as the lake of Keél Mâhi (or Kul Mâhi = The Fish Lake) which is overgrown with tamarisks. Sometimes in the spring it is said to have water and many fish.

The Main Routes across Baissun-tau. From the fertile Kashka Darya oasis two travelling routes traverse Baissun-tau eastward to the Surkhan valley and southward along the Shirabad-darya. The more northern leading from the town of Yakkabagh over Tash-kurgan is very toilsome, wherefore the more southern from Gusar by the town of Baissun is more frequented. From Yakkabagh the raging Yakkabagh-darya is followed up to the village of Pattar, then steep zigzag paths go up and down the mountain crest to Tash-kurgan. Here the upper course of the Yakkabagh-darya, the Tash-kurgan-darya, must be passed on a primitively constructed bridge, and across hills of red sandstone on the banks of the Tash-kurgan-darya the main range of Baissun-tau is finally attained and the pass of Lagari-murda is crossed. From here can be chosen two ways, namely one exceedingly steep and dangerous path to the river Ssarym-sak-bulak and through the above named Bakhtja cleft. The other way is longer, but easier, going down terraces to the Bakhtja cleft where both ways meet, and the route is now continued along the river Sang-gardak to Saryjui (Yellow Soil) and the town of Yurtshi (Residence) south of the latter.

The route from Gusar to the Surkhan river along the Gusar-darya passes the kishlak of Kushlush, where the Katta- and Kitshi-urun-darya meet; then it follows the ravine of the Kitshi-urun whose neighbouring hills consist of tertiary species of stones and have torn rocky crests devoid of vegetation up to about 200 metres above the river. Then one has to pass the kishlak of Tenga-haram (possibly The Impure Money, but the name may also be a distortion of Tenga-qoram or -qorum (stones, fragments of rock), so that the translation would be The Stone Money (from the many blown up flat small stones)), situated in a valley which is about 10 kilometres long and 5 kilometres broad where the clayey and sandy alluvial land of the river yields arable soil to the inhabitants. Through the narrow ravine of Tshashma or Tshesme (Spring) the way leads

south-eastward through the cleft of Ak-dagan (White Pass), a crack 2 kilometres long in the rock with perpendicular limestone walls, out into an expansion of the valley grown with grass and trees where Tshashma Hafisan (The Spring of Hafisan) is situate at an altitude of 1115 metres. From here one ascends to the pass of Ak-rovat (White Resting Place), 1390 metres; the tops round the pass rise to 16—1700 metres, and thus the watershed between the Kashka Darya and Shirabad-darya is gained. On the way down the ravine of Tash-kalam (The Stone Pen) is traversed in whose alluvial soil there is a luxuriant growth of juniper, pistachio, maple and tamarisks. Not until Tash-kalam has been passed does one reach the central range of Baissun-tau which is broken by the well known imposing cleft, "The Iron Gate", by the natives called Busgalla-khanâh (The Goat House). The gate has a breadth of only 20 metres, and on both sides the mountain walls rise to about 150 metres. In spring when a mountain brook flows through, it is impassable. From the Iron Gate there is an imposing view across endless red sandstone hills. The Shur-ab (The Salt River) is crossed, and shortly after in the east the kishlak of Derbent (Door Fastening or Barring), which has about 2500 inhabitants. To get eastward to the town of Baissun one has to pass some transverse ridges consisting of sandstone the first of which has an altitude of 1400 metres; they are separated by deep valleys of erosion, and from the last of them one looks down into a charming oasis round Baissun where fields and gardens are cultivated with great care.

MY JOURNEY IN SHUGNAN, ROSHAN, DARVAS AND KARATEGIN

It was a great moment for me when I stood on the northern bank of the river Gund after having conveyed my caravan across the river on floats of inflated skins; I had now attained what I had looked forward to: I had travelled through Vakhan, Ishkashim and Garan on the right bank of the river Pandsh which by the Russians in Pamirsky Post on the river Murghab was looked upon as impassable. The commander in chief of the post, Captain Solotsky of the horse artillery in Margelan, therefore advised me to take the route from the Pamir-darya across the Mas glacier along the Shakhdarra to Shugnan, thinking that the high water of the

Pandsh in August would prevent me from passing along the river bank; and the steep rocks often rising like a wall from the river especially in Garan were likewise looked upon as impassable for a caravan. Captain Solotsky also dissuaded me from advancing along the Pandsh out of regard to the neighbourhood of the Afghans. Up to a recent time the latter had been masters of South Pamir, but had been obliged to retreat to the southern bank of the Pandsh and surrender South Pamir to Russia who transferred it to Bokhara. But neither Russia nor Bokhara had taken real possession of the land, the Vakhans and Garans did not know to whom, properly, they belonged. Their old Mirs (a sort of Khan or Emir) were absent, the Afghan officials likewise, but nevertheless the latter sometimes turned up to collect taxes which they were not entitled to, or in order to plunder. In fact, there was wild anarchy in the provinces along the northern bank of the Pandsh.

Perhaps, this was to some extent the reason why my journey through Vakhan in 1896 was a sort of triumphal procession, the inhabitants thinking that through me they might be able to obtain Russian patronage which they did, but would have obtained in any case, of course. From town to town I was accompanied by crowds of men who were of great use in assisting my caravan on its way through the country; from time to time I was obliged to go through innumerable banquets and from each town deputations were dispatched to present me with different things, mostly fruit, poultry and eggs. Thus I had nothing to fear from the inhabitants, but the more from the Afghans who looked upon me as a Russian or a Russian spy. From the entrance of Vakhan, from Kalai Pandsh and somewhat into the province of Ishkashim, Afghan patrols followed me on the south bank of the river Pandsh; they always stopped opposite to my place of encampment, often approaching the bank and flourishing their swords above their heads, firing their guns into the air and shaking their fists at me as soon as I came near the river. By degrees I grew accustomed to all this; but one day when I was shooting pigeons in the coppice on the Pandsh, they set about it seriously. From an ambush among some blocks of stone covered with thicket guns were suddenly fired and the balls dashed against the rocks and among the bushes round me. The river is here only about 30 metres broad. I was not hit and in a moment I was at my tent, from thence I discharged a rain of balls from my Winchester rifle to the place opposite, until all was quiet again; I saw nothing more

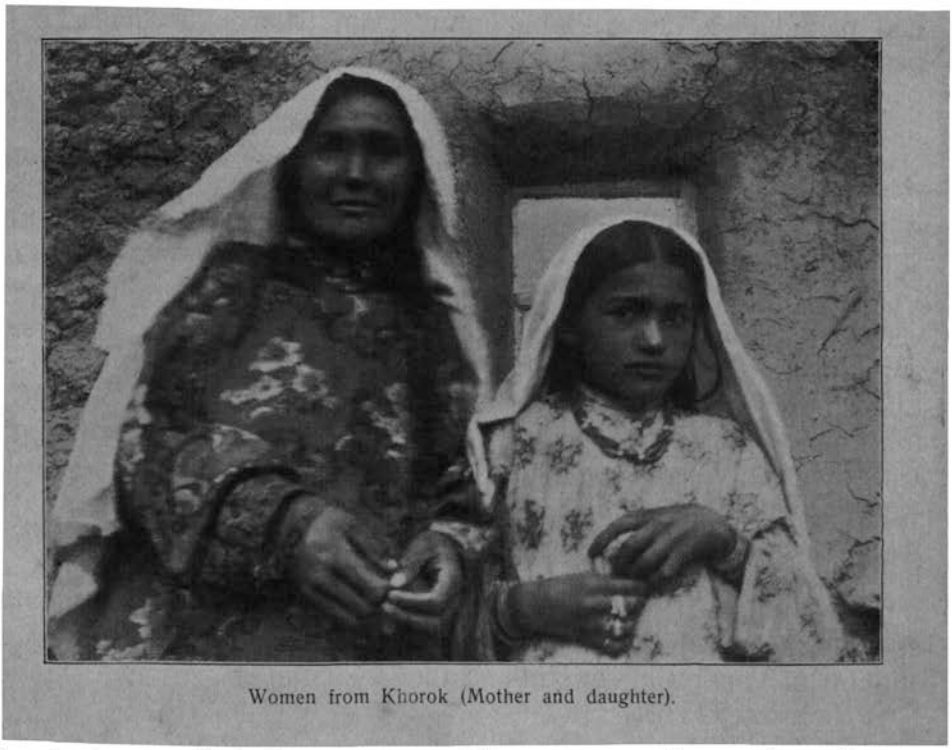
of the fugitives nor of the Afghan patrols. Both in front of and behind me Afghan bands sacked the villages in Garan, most of my horses were either destroyed or tumbled down from rocks and precipices in Garan, so that now I was in Khorok with only 3 or 4 horses fit for use. Later on I did not mention these occurrences lest they should prevent the emission of the second Danish Pamir Expedition.

The kind attention which the inhabitants in Vakhan and Garan had paid me, I met with but rarely from Khorok northward. For here people were discontented with the Bokharan Begs and complained that they collected too high taxes. Now being always the guest of these Begs owing to my connection with Bokhara, I was often disliked by the population. In many places they would neither hire out nor sell beasts of burden, provisions nor cattle to be killed, and all this I was obliged to procure while travelling along, as I had only victualled for the journey through Desert Pamir to Vakhan and had no more beasts of burden left. We often had to wait for days to get cattle to be killed after long discussions with the native Aksakals (sheriffs or bailiffs) or Kasis (judges). At difficult passages it was almost impossible to obtain porters for transporting the baggage and often they threw down the baggage half-way and disappeared, and only after a troublesome pursuit they were brought together, and this in spite of their always receiving more than the payment stipulated. It was a great inconvenience both to my Mussulmen from Turkestan and to myself that our tobacco ran short; we were now generally obliged to smoke dried apricot leaves. Now since the Russians have undertaken the administration of Pamir and superintend the Bokharan governors, conditions have improved.

But back to Khorok. Here I arrived on the 25th of August 1896. A Russian officer who had lately come here with a patrol of 60 mounted infantry and pitched a small fortified camp, received me on the river bank informing me that he had orders to make one of his native ordinances accompany me on my way northward which I accepted; we had a meal together in his small clay-house, and I did not see more of him, for the next day he departed with his whole force to Pamirsky Post. On the same day a Bokharan Beg marched into Khorok, and he was now to be the future governor of South Pamir. But his rule did not last long, for on my return in 1898 the position had been taken by the Russian main force from Pamirsky Post, about 100 Cossacs

and infantry who remained there during my stay in the winter 1898—99.

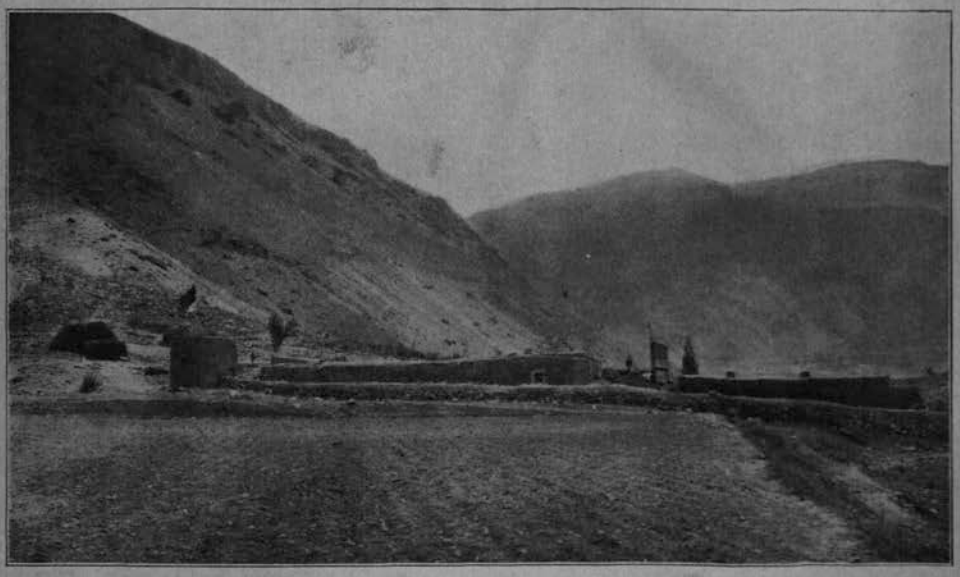
On moving into Khorok the Bokharan Beg presented a very picturesque sight. In front rode the Beg, his sons and nearest officials, all in motley caftans, partly of silk, and white turbans, after them a great many riders, some on horses, others on donkeys. They were the soldiers of the Beg (Sarvas, a sort of personal bodyguard) and his household, but one had to watch the procession



Women from Khorok (Mother and daughter).

closely to see that there were soldiers among them, for all were dressed like Bokhara men or in loose caftans; one had a scimitar in his belt, another carried it in his hand, lacking the sheath; one sat dangling an old matchlock, another was armed with an immense lance, a third with a spear about two feet long. All carried on his horse some domestic utensil or other, such as a copper kettle, a large brass slopbasin, a box, some loaves of sugar, sacks with meal, blankets, tea-pots, fur-cloaks, bottles of hay, all in a picturesque confusion, as when a broker has his moving day. Most of them were sitting with their bare feet in the stirrups, some had neither saddle nor stirrups; some donkey riders whose

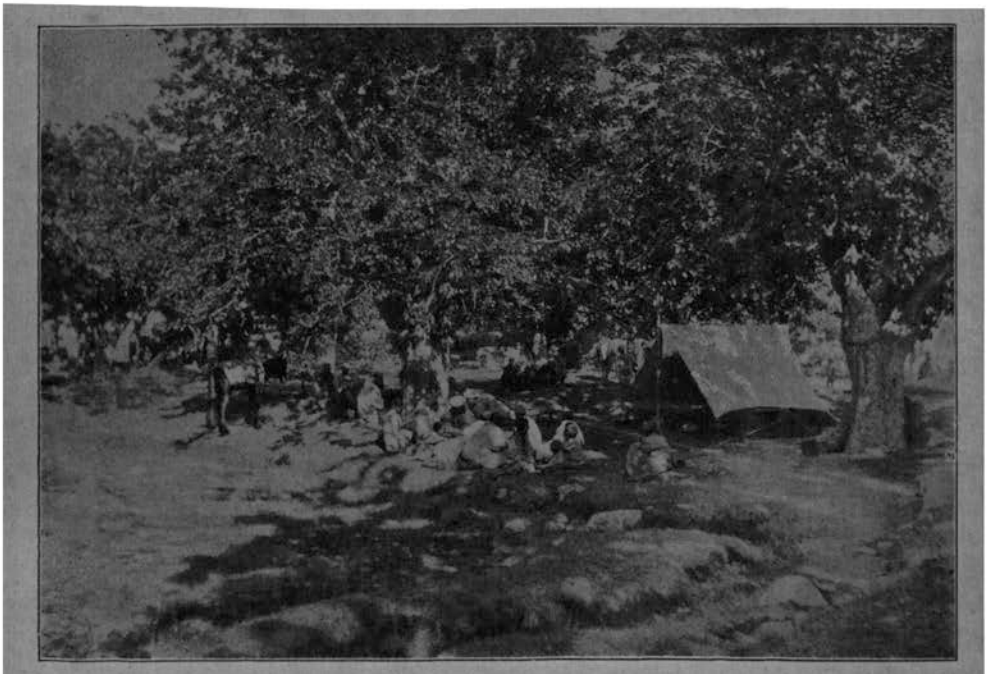
slippers were dangling on their naked feet finished up the procession. The Beg, an old fat Bokhara man and Tadjik, immediately took possession of some of the best houses and gardens in the town and established a temporary bivouac on carpets under the shade of the apricot trees. Presently I went up to him and made him lend me on hire some horses for one day's march northward, and issue a sort of passport to the Aksakals in the towns I would come across in Roshan before the town of Kalai Vamar to the effect that they should procure horses for me at a fixed price for my



The Russian fort at the village of Khorok, built in 1897—98 (seen from the west), (phot. 1898).

further journey within their districts. We took a glass of tea together and having, according to the custom of Bokhara, exchanged the usual wishes for each other's happiness as long as we were alive and even after death, I sprang into my saddle early in the morning of the next day which was the 27th of August and left Khorok with my small reconstructed caravan, towards evening I reached the kishlak of Sashar where I pitched a camp. Having turned away from the river Gund on whose outlet into the Pandsh immense heaps of gravel and stones cover the foot of high, steep granite and gravel mountains, one has to pass through a beautiful glen which almost as far as Sashar is considered to belong to Shugnan; the latter also comprises the valleys of the Gund and the Shakhdarra

and the Shiva plateau with the lake of the same name. (The lake of Shiva is about 35 km. S. b. W. of Kalai-bar-Pandsh, I was told by the natives that the lake had a rounded shape, it was not very large and there was an abundant growth of grass on its banks; in many places there are extensive copses of willows and roses, and there are lots of wild birds. For political reasons I could not visit the lake and it is still practically unknown in Europe. Regel is said to have visited it from Kalai-bar-Pandsh; he records that



My camp in a garden (mulberry-trees) in the village of Sashar.

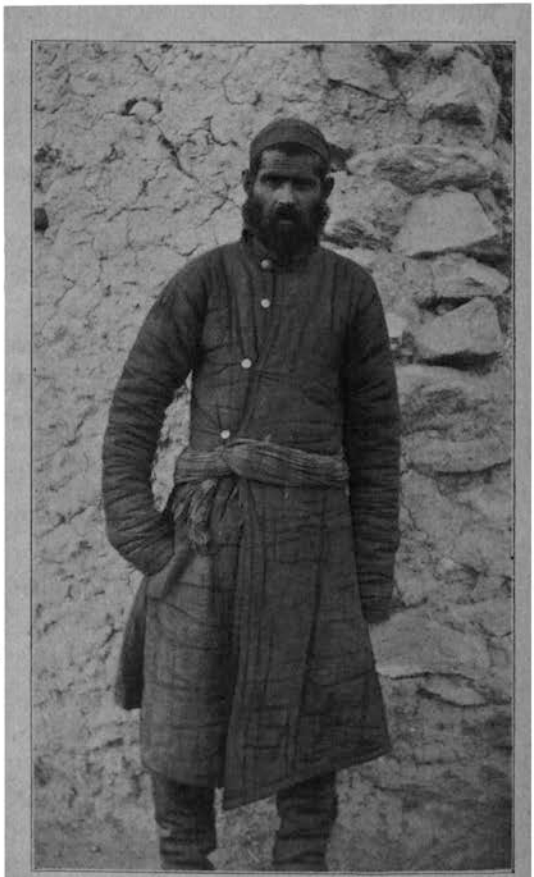
it is situated at a height of about 3350 m., has an average size of 40—45 km., salt water, the surroundings display alpine flora, only on the southern slopes of the mountains there are copses of juniper and wild roses. Native travellers give the size as much smaller than recorded by Regel.

One kishlak is here beside and above the other both on the right and left bank of the Pandsh. Groups of the flat-roofed houses lie close together as on shelves along the short but rapid tributaries down to the Pandsh; it looks as if it were possible to leap down from the crest of the mountains upon the flat roofs from one town to the other. All round the kishlaks are large gardens on terraces

down the slopes, and gigantic mulberry, apricot, apple, pear, and peach grow everywhere; along the rivers small turbine mills are patched like swallows' nests, often half a score, one over the other; and at great distances from the kishlaks, as far as the water can be led with much difficulty into the channels, dug or built up with slate or clay, there are cultivated fields where wheat, barley, millet, melons and pulse thrive fairly well. The Afghan side, the left bank of the Pandsh seems, however, to be the better one; the irrigated terraces are larger, and especially round the castle of Kalai-bar-Pandsh the gardens look at some distance like small woods. Kalai-bar-Pandsh (the castle above the Pandsh) had in 1878, according to Munshi-Abdul-Subhan, 1500 houses and about 7500 inhabitants; but now, according to the natives, it is much smaller. On a rocky terrace, difficult of access, is the fortress, which is encompassed by walls, 12 metres high, and quadratic in form; in the middle rises a high palace built of stone with many square towers, jutties, machicolations etc. where the Afghan commander lives with his 300 men. With its balconies and many wooden shutters facing the Pandsh it looks very picturesque, quite the type of an old robber's castle. Horns were heard from the castle on our passing by as a sign that they had seen my white Russian cap and were on their guard.

In all the villages the mountain Tadjiks appeared before their houses to look at the caravan passing by. The men stood in rows in their white woollen caftans, the women with their rumpled long black hair were seen in compact groups on the roofs of the houses where they thought themselves safer. On halting, some fifty men immediately gathered round us, one of them brought us some fruits, and greeted us with the welcome of Salam Aléikum. The children attracted the attention of the traveller; for nearly all had their cheeks painted red which was also the case with some grown-up women coming near us. The women were unveiled, but often hid their faces in our presence, several of them were rather pretty, with delicate Iranian features, but very dirty. Practically all were dressed in a white cotton chemise and white trousers hanging down in folds over their feet which were generally naked, and on their heads they wore a small white cap or kerchief. Most of the men wore a larger or smaller white or coloured turban, yet in some places, as in Vakhan, also the brown turned-up woollen hood was seen. When not bare-footed they always used soft brown, untanned, short leather boots, tied round their ankles with a many coloured string.

At this time of the year they were busy in the gardens; everywhere they were seen shaking down or plucking apricots, peaches and mulberries The men were sitting in the trees, the women running about on the ground gathering the fruits in large wooden dishes, then they place them on the roofs to be dried; for they do not know how to preserve fruits. When dried the mulberries are generally ground into flour which makes up for sugar and is used in baking small sweet cakes. The white mulberries are common here, but the black are rarely seen. The inhabitants seem to devote much time and care to their orchards; wherever I went the gardens were well kept, the channels cleansed, the stones picked up from the ground, and most of the gardens surrounded by high stone-dikes; the sides of the terraces were as a rule supported by stone-walls that the precious cultivated soil, the loess, should not rush down. Now and then the heat was rather oppressive, and it was quite a relief to halt a bit beneath the large shady fruit-trees among which principally the apricot trees attained a great size and thickness. Tilled soil and many kishlaks on both sides of the Pandsh are not met with, however, beyond about 20—25 kilometres north of Khorok; so far the river is often 5—6 kilometres broad, dotted with islands grown with jungle; it runs so quietly, especially in the neighbourhood of Kalai-bar-Pandsh, that it can be navigated with canoes procured by the Afghan garrison. The banks offer a wide view much longed for when emerging from the narrow ravines of Garan, and the kishlaks form an almost continuous range. The roads, or, to

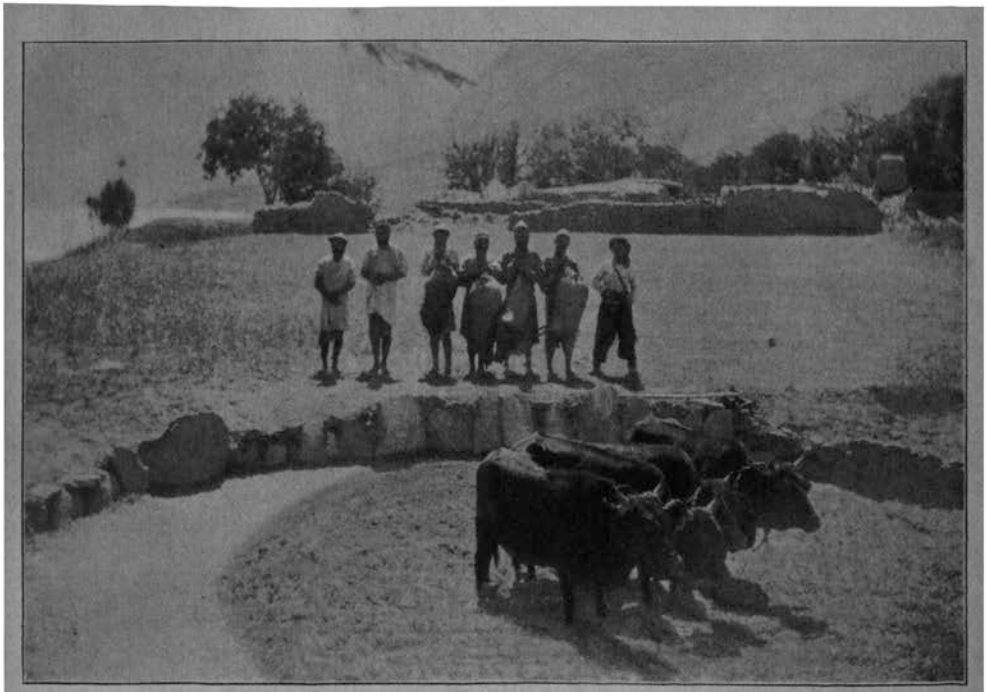


One of my Shugnan Djigits (Ulug Beg).

put it more exactly, the primitive mountain paths of the natives are good; they wind, indeed, up and down slopes and declivites but there is no danger when walking there in summer. The mountains which surround the valley are not very imposing; they are flattened, much terraced, and perpetual snow is nowhere to be seen.

Near Sashar the valley begins to narrow, the Pandsh whose roaring we had not heard after we had left Garan, becomes narrower and narrower, often not broader than one can throw a stone across it, its course becomes more and more rapid, so rapid that the whole immense body of water tumbling across blocks of stones in the river, seems dissolved or transformed into foam; it dashes upon us while passing along the bank; and one grows dizzy from looking at the water whirling round every moment in furious eddies and making such a noise that you cannot call out to a man at the distance of a few steps. There are many cataracts, the most imposing, where north of Sashar I have marked out the second pass on the route. Here the water dashes to such a degree on the crowded mass of stones on the bank that one becomes dripping wet, and it is impossible to get out of the way, as a rocky wall of slippery granite goes vertically down into the river. In a few places south of the Vartang the Pandsh widens out into a large lake which might be easily traversed in a boat, its course is so quiet; but then some 10 kilometres south of the Vartang it narrows, where the tower of Derbent on a vertical rock some 50 metres above the Pandsh marks the border between Roshan and Shugnan, and widens only a few kilometres south of the Vartang. Derbent or Darband has been employed as a sort of barring fortress, now by the Shugnans, now by the Roshans. At present the fortress only consists of a single decayed square tower; numberless forts in Central Asia are called Derbent. North of Sashar the bank dwindles into next to nothing, the mountains become more and more gigantic, and rise like tremendous walls with steep inaccessible sides from the valley; jagged peaks with "firn"snow on their tops are seen especially on the left bank, i. e. they are seen on turning one's eyes almost towards the zenith; a more imposing crest of mountains is rarely found. Almost just opposite to Derbent some beautiful greenish blue glaciers shoot down upon the Pandsh; they rise from Kuh-i-kalan (The High Mountain) in the northern Badakhshan right south of Kalai Khumb in Dar-

vas. Along the Pandsh is not a bit of arable soil from Sashar as far as the river Vartang, one passes either endless fragments of rock or rolled down stones, or one has to ride on a six inch path at the foot of vertical granite walls; only in the valleys of the small affluents is there some arable land and mostly on the left bank. All the valleys end in a broad triangular sloping terrace filled with a thick layer of round stones all of the size of a pair of

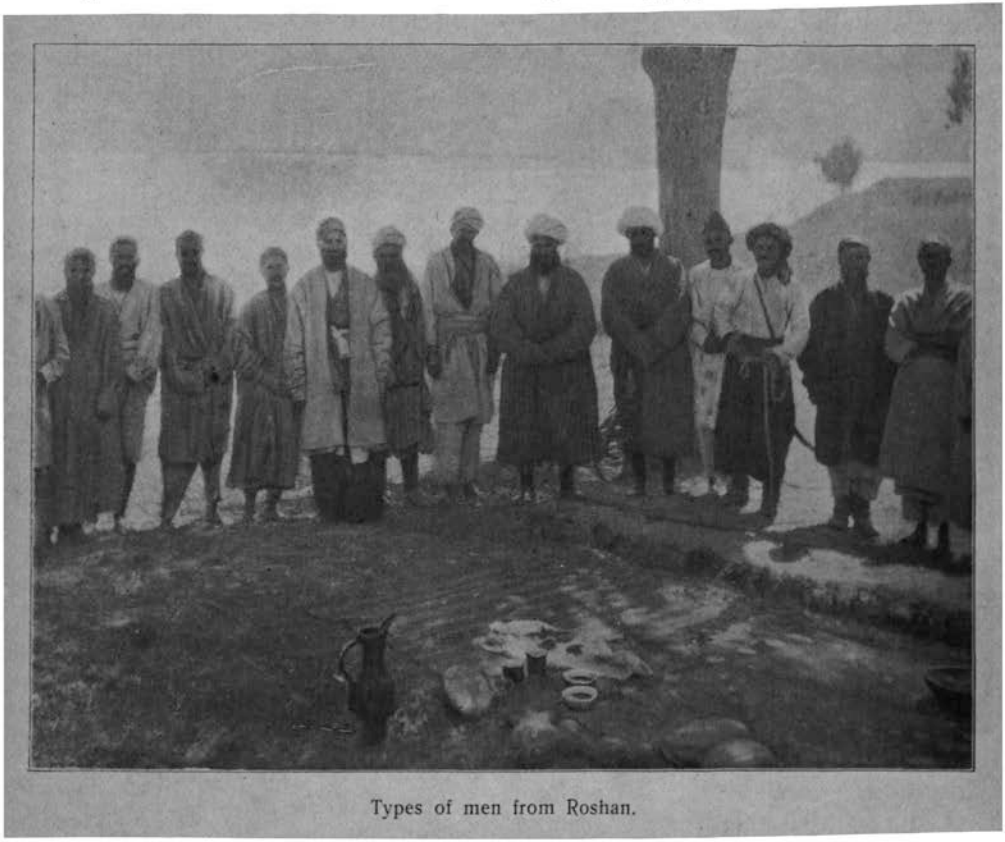


From a kishlak in Roshan. Oxen are thrashing corn. In the background natives with blown up skins of goats for ferrying across the river.

clenched fists, and here the water which has not been consumed in watering higher up on the river, runs down to the Pandsh in a great many brooklets. There are few kishlaks from Sashar to the Vartang, the largest are on the Afghan side; those in the territory of Bokhara can hardly be called kishlaks; for they only consist of two or three small houses high up in the narrow valleys of the affluents where some Tadjik families sustain life by tilling the bit of earth which has formed here and there on the bank or on higher terraces on the brooklets; they also keep sheep and goats which in summer are driven up to the mountain pastures (Ailâk). Some

ten or twenty fruit-trees, apricot, walnut and mulberry trees always grew round the houses.

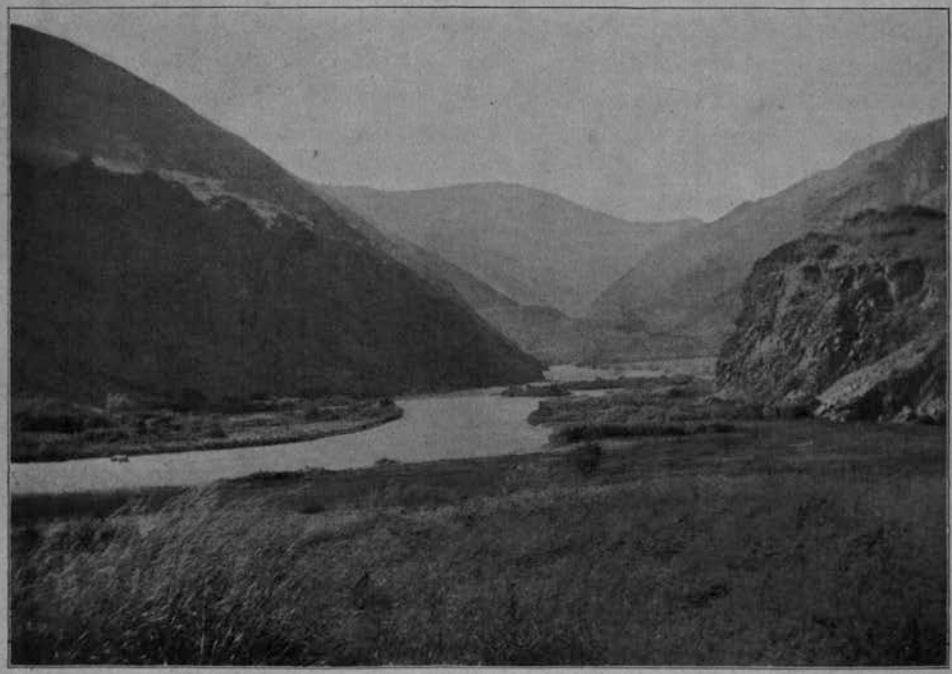
In Sashar I had to change the horses, as those of the Beg in Khorok could not walk any longer; it was a hard rub to make the Aksakal here provide beasts of burden, both because he and everyone in the town were unwilling to supply them, and because



Types of men from Roshan.

there are on the whole very few horses in all these mountain provinces. The language also threw great obstacles in our way; for my companions from Turkestan and I could only speak Turkish, and all about here they talk old Persian in different dialects. Some words we had learned, however, while travelling through Vakhan and Garan, and by means of them and gestures we got on. After long negotiations with the whole male population of the town we finally obtained three horses, a few donkeys, which are found in fairly great numbers, and porters to carry the light baggage, and with them we toiled onward with great difficulty, but in one day

we only reached the last kishlak south of the river Vartang. Here we met with a kind Aksakal, at whose house i. e. in our own tents in his garden, we remained over night, and he promised to procure porters and transport us to the Vartang the next day. I had dispatched in advance one of my Djigits to the Beg in Kalai Vamar to ask him to order thirty six inflated skins on the southern bank of the Vartang. The Djigit returned with an answer

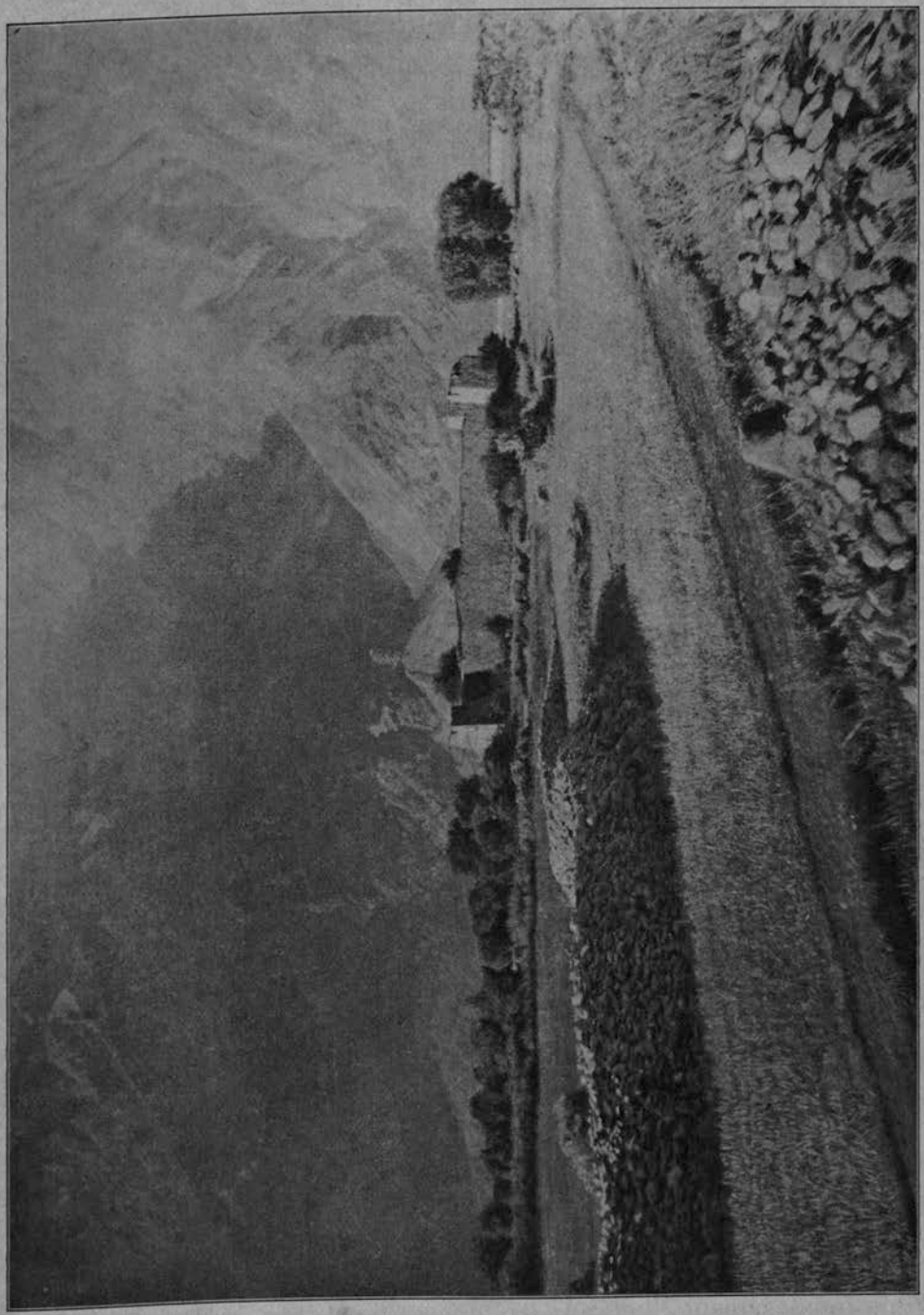


The river Pandsh at the entrance of Kalai Vamar. Outlook towards the west.

from Beg Ishan-kul in Kalai Vamar that all should be carried out according to my wishes, and he brought me a post-parcel which had been sent to me by the Russian political agency in Bokhara through the Bokhara authorities. This parcel had been carried by mounted messengers from town to town, from Aksakal to Aksakal over about 1900 kilometres as far as these pathless regions where it had arrived safely at Kalai Vamar, at a distance of a few versts from me, but unfortunately not any further either. It contained photographic plates, and out of curiosity the Beg had opened one, but luckily only one of the boxes, and then the plates had been spoiled.

Early in the morning having loaded the whole of our baggage

on porters, we passed by an expansion in the Pandsh somewhat like a lake and again through a narrow ravine along the noisy river, across a few small easily accessible passes to a branch of the river which south of the Vartang connects the latter with the Pandsh. Here we had to cross a high plateau and to follow the Vartang a little way before reaching the ferry. On our arrival at the river bank with our porters panting and groaning, the ferrymen of the Beg were already on the spot with three excellent floats, each of them composed of 12 inflated goat-skins (Sanatsh) and ten men were ready on both sides of the river. On a carpet on the bank one of the Aksakals of the Beg had laid a small meal consisting of tea, pillau, melons, fruit and sweetmeats, very welcome indeed, as for a long time we had lived upon what the native Tadjiks were able to supply, generally nothing but mutton and bread in the form of pancakes. The crossing of the greenish blue swelling Vartang, here some 100 metres broad, went off very well. The rowers if they may be called such, steered baggage and persons safely to the northern side; to each float belonged 4 rowers, and they steered in hanging by their arms in the branch covering of the float and treading water with their feet. By the way, the skins are blown up by the mouth and shut by means of a wooden tap in one leg of the hide; they are tied together with branches to form a float, and then carpets and fur-cloaks are spread over them that one can sit dry; four men and a good deal of baggage is carried by such a rocking float on which one must, however, take care not to tread; one has to crawl cautiously across it. The horses were driven into the water at a bend of the river, and when the men on the opposite bank shouted to them: "Mö! Mö!", the call used here everywhere to entice the horses, they swam or were thrown by the current to the opposite side. Our two tent dogs which I had bought in Vakhan had a good trip before attaining the other bank; of their own accord they swam out into the water, and only far down the river did they succeed in catching on to some bushes where some Tadjiks fished them out. On the northern bank the eldest son of the Beg appeared on horseback accompanied by 20 men to receive us and welcome me to Kalai Vamar; we were obliged to take another cup of tea with fruit and sweetmeats before making off for the town, the capital or main village in the province of Roshan. The Beg's son pointed out to us an excellent place for our tents in a shady garden in the town which is about 1 km. north of the fortress of Vamar

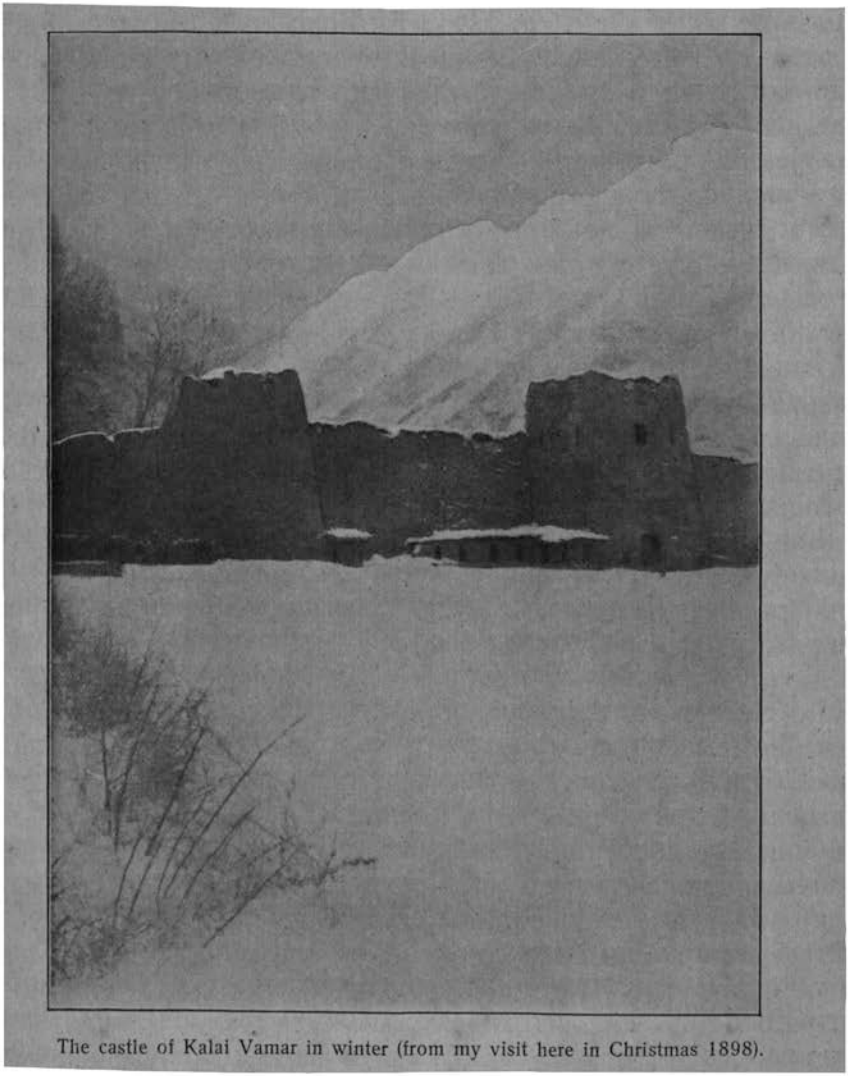


The castle of Kalai Vamar. In the background the mountain wall to the south of the Pandsh in Badakhshan.

where the Beg lived. A table in the garden was laid with all that we could possibly wish of grapes, apples, pears, melons, Bokharan bread (small round cakes), several loaves of white sugar, raisins, Bokharan sweetmeats, large quantities of meat, soup swimming with fat, boiled eggs and a large brass-tjillem (water-pipe) with tobacco to enjoy after the meal. Hamrakul, my right hand man from Turkestan, was all eyes; of late his confidence in my greatness had dwindled down very much; but on this reception it rose considerably. Apricots, walnuts, apples, pears, almonds and figs were hanging above our heads in the large shady trees; for the present we could not imagine a better place of residence, and we were, indeed, in want of rest in this sort of paradise. Immediately I sent off Hamrakul to the Beg to thank him and announce my visit for the next day, as I was very tired now.

After some hours' repose I took, however, horse again, and together with an Aksakal I went about the country to take a somewhat closer view of it. From the narrow valley of the river Pandsh where one seems almost buried alive, it is exceedingly refreshing to emerge where the landscape allows of a wider outlook. A little south of the Vartang the valley at Kalai Vamar suddenly widens out into some 10 kilometres; on the northern bank of the Pandsh one large kishlak is near the other, but there are few and small villages on the south bank which is very narrow as the mountains of Badakhshan run almost down to the river and especially opposite to the fortress of Vamar rise from the Pandsh as a nearly vertical and inaccessible wall. The banks of the river are grown with rushes, reeds and jungle, there are many small islands with low copse, and the river, rapid and eddying, winds through the valley in steady and numberless curvatures immediately past the southern wall of the fortress. The whole valley is well tilled, one corn-field with wheat, barley, millet, luzerna, cotton and tobacco is beside the other, and the territory, here very flat, is traversed by narrow, but good, smooth roads surrounded by the gardens of the villages with their obligate stone-hedges. The valley has the shape of an ellipse with its large axis in E.-W.; about 10—12 kilometres west of the outlet of the Vartang into the Pandsh, the valley, again narrowing, is very difficult to traverse on the large curve formed by the Pandsh when breaking through the Roshan mountains. If the bank of the Pandsh has to be followed further on, all baggage must be loaded on porters. In summer, therefore, they prefer the way north-

ward across the glacier of Odudy in the Roshan mountains, impassable in winter, and I also took this route on leaving Kalai Vamar. As recorded above the Roshan mountains recede to the north some



The castle of Kalai Vamar in winter (from my visit here in Christmas 1898).

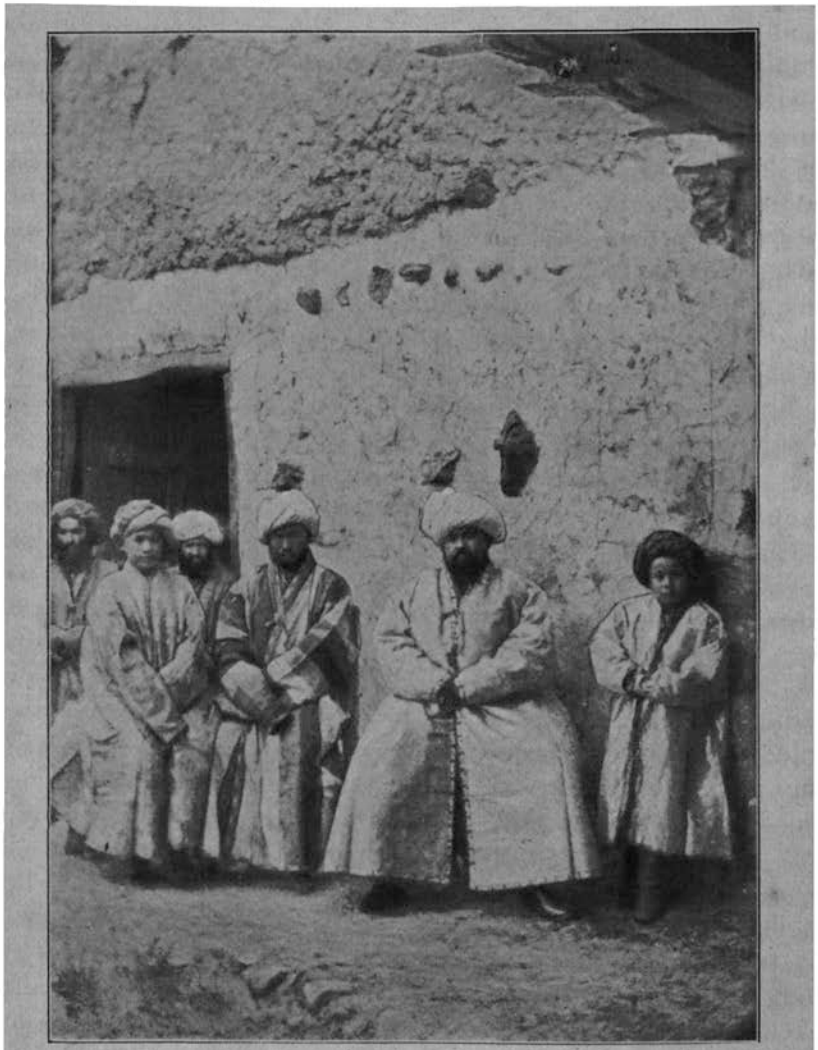
10 kilometres from the Pandsh rising immediately to a considerable height and steepness; still from nowhere in the valley is perpetual snow seen on the mountains at this season, nothing but naked, colossal, brownish black mountain giants shut up the valley round about. Having received the Vartang, the Pandsh has swelled very much; its water is pretty clear, and some carp are found in it. On its

outlet the Vartang is much more considerable than the Pandsh; it carries greenish blue, rather transparent water and is not clayey, as Geiger has it in his book: "Die Pamirgebiete", p. 148, but may probably be so at an earlier time of the year. In spring the great inundations of the Vartang often damage the valley of Kalai Vamar, the whole territory is sometimes nearly immersed, and on the confluence of the two rivers there are many fens covered with high reeds and willows among which are not a few wild birds and a good many harmless snakes. The fens are suddenly cut off to the west by an isolated granite and slate mountain near the fortress.

The inhabitants of Kalai Vamar, as elsewhere in Roshan, are almost exclusively Tadjiks (Mountain Tadjiks), and few people belonging to the garrison of the Beg were Usbegs like himself. The influence of Bokhara was perceptible in the many motley caftans; apart from this the type and dress of the population was the same as in Shugnan. The nails and beards of the men were often coloured red with henna as is the custom farther west towards Persia. The women are unveiled. The custom of shaving the head as smooth as a billiard-ball is also known here and there in the inhabited Pamir valleys, as far as Vakhan, but is not very common; as a rule they wear their hair short; only the descendants of saints and dervishes wear longish hair hanging down their backs. When asked why they did not shave their heads, they answered that it was difficult because good razors were rare, if razors could on the whole be procured. An old Naïb (bailiff in a small town) of the name of Yysyf (Joseph) added that, besides, it was too cold in Pamir to wear the head shaven. Several of the inhabitants suffered from the struma, a tumour on the neck from the chin down on the breast; it is said to be a consequence of drinking the water unboiled.

About noon the next day I announced my visit to the Beg through a Djigit, and at some distance from the castle which looked very imposing with its high strong walls, towers and iron-bound gate, I was received by some motley dressed Mussulmen headed by a tall, handsome, black-bearded Tadjik carrying a long white staff as a sign that he was a master of ceremonies. He welcomed me to the castle in the ordinary florid language, but as he spoke Persian I understood little of it; one of the sentences, however, viz. that all hearts in Kalai Vamar rejoiced at my visit and had for a long time looked forward to it, I had heard so often that instantly I recognized it. The Beg had apparently

made ready for a solemn reception which is always prepared for the foreign guests of the Bokharan Begs if they are at all received in their castles, for they wish to make their subordinates believe



Ishan Kul with his sons outside the castle of Kalai Vamar.

that they admit only persons of quality to their houses. Arriving within the iron-bound gate just beneath the main tower I met a similar procession as without, again headed by a master of ceremonies, and with these two in front, some of the train before and some behind, we passed a short, broad street flanked

by open stables, and such a confusion of small houses, passages and odd nooks and corners as are only to be found in old, Oriental castles; but suddenly a small low door opened upon a charming garden with small watering channels and overshadowed by fruit trees. In a large wooden pavilion open on two sides was the Beg in a caftan embroidered with gold and beside him two of his nearest relations in motley silk caftans. They were sitting at one end of a large wooden table covered with a table-cloth of figured stuff, and the whole table was closely laid with many dishes of meat, bread, fruit, sweetmeats in such quantities that there would have been enough for the whole population of the town. On the floor of the pavilion there were fine Turkoman carpets, and the Beg and his two guards in the charming, cool garden looked like persons in a fairy-tale. Smiling and with that dignity which is characteristic of men from Bokhara, the Beg went downstairs to welcome me with the usual long formula of welcome which to his great astonishment I gave him back again in his own language (Usbegish). For about an hour we conversed with each other during the meal, all of whose dishes had to be drunk from cups or eaten with the fingers. When Hamrakul, who together with the other men lay eating on the ground outside the pavilion, saw me draw a dagger to cut meat and pillau, he immediately appeared with my own eating tools which he had brought along with him, as otherwise, according to his saying, I would as usual burn my fingers on the Moslem dishes. After the meal a beautiful waterpipe inlaid with precious stones went about, I took a draught with a certain caution, then we had a view of the magnificent garden where a luxuriant growth of vines covered the walls of the castle, and where besides fruit-trees there were many flowering plants and ornamental bushes; we discussed the question which was of such an importance to me, whether I could obtain beasts of burden and porters to accompany me across the glacier pass of Odudy as far as the river Yashgulam. The Beg was immediately willing, adding that he would provision the caravan gratuitously so far on and dispatch a quick ordinance along the Pandsh to the Beg in Kalai Khumb in Darvas to announce my arrival and demand of him a good reception. Finally he asked me to speak well of him when visiting the Emir of Bokhara and his prime minister, which I promised him as I had no reason to act otherwise. We took a hearty leave of each other, he accompanied me to the gate of the fortress and his attendants even further on. Then we hastened back

to the camp, however, where there was work enough in the afternoon in mending torn harness, saddles and sacks for the expedition which was to start the following morning.

I dispatched Hamrakul to present the Beg with a brass specular compass (I had several of the kind) in return for his kindness, and Hamrakul on that occasion received a new caftan.

The Beg Ishan Kul (the central figure in the foreground) in his pavilion) (in the background two masters of ceremonies with their staffs.)

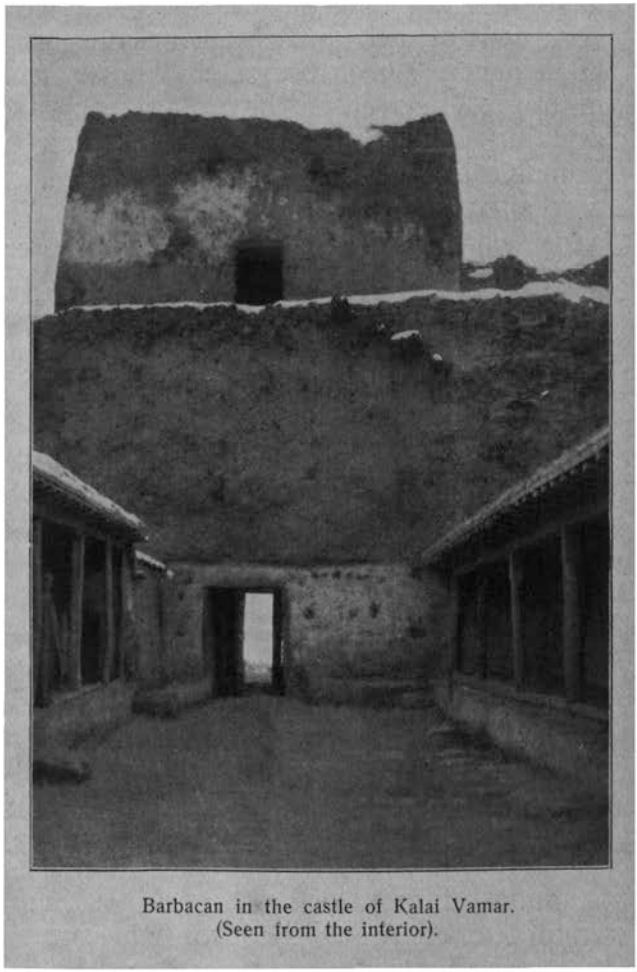
The Beg kept his promise; the next morning long before sunrise 10 porters, 3 horses and some donkeys were ready to be loaded with our baggage. The men had brought along with them some long and solid piked glacier sticks and ropes to be employed during the glacier passage and some trusses of hay for the animals. No less than seven loaves of sugar, a bag of sweetmeats and cakes and some melons were brought me from the Beg. What became of the sugar, Hamrakul knows; for on our arrival at Kalai Vandsh in Darvas this product had again run short[1]). — Near the town of Vamar we turned north-ward into the ravine where the river Odudy runs down from the perpetual snow. The passage is exceedingly difficult, for the valley is narrow, filled with fragments of rock and rolled down

[1]) In the winter 1898 I again called upon the Beg in Kalai Vamar together with Mr. Hjuler and Mr. Paulsen. This travel in the depth of winter is described in my book: "Gennem Pamir". Copenhagen: Hagerup. 1905.

stones, and no arable ground is to be seen. Dense coppices of willows, poplars, hippophae, juniper, birch, wild roses and honeysuckle occur here and there on the banks and on a few terraces where the river, running over the terrace has produced marshy moss-clad morasses very difficult to traverse. Here a horse tumbled down with all his baggage and was killed on the spot; but we saved the baggage which consisted of two boxes filled with instruments and photographic implements. On inspecting the boxes whose contents were stowed in tow all proved to be unhurt. The path now follows the one, now the other bank of the river, and across the latter are built primitive bridges of branches and flat slate-stones. Towards evening we halted on a terrace at a height of 3741 metres just below the snow which in the shape of immense arches formed bridges across the sources of the river Odudy. We pitched a camp in a small snug copse which commanded a grand view southward. At this height some Tadjik shepherds were nomadizing; they lived with their sheep and goats in some wretched stone-houses (Ailâk). All round the juniper copse the partridges were cackling, and I killed some for dinner. The sun had been shining during the ascent; but towards evening, fortunately not until we had pitched our camp, the clouds gathered, and soon we were wrapped in a snowstorm which lasted a couple of hours. The snow, however, soon melted away in the sunshine, and the territory which had been very like a winter landscape at Christmas time, again assumed its summerlike appearance. A great many umbelliferous plants, one metre high, are characteristic of the terraces at this height both here and elsewhere in the lateral valleys of West Pamir.

After a villainously cold night during which all pools were covered with thick ice we rose at three o'clock in the morning in order to be able, if possible, to pass the rather small glacier before the sun had had time to render it friable. I walked foremost with a guide, at first wearing a fur-cloak and cap, but soon I got too warm; for now we had to crawl on rolled down fragments of rock, heaps of loose stones which slipped, when trodden on a little too hard, and across steep granite rocks where we crept on by setting our feet in the natural roughnesses of the stones. The porters carried the whole baggage, and it was very difficult to bring up the horses. They had often to be hoisted by ropes to the terraces, and it must be considered a wonder that all got safe through the immense moraines now and then giving room for a pointed peak round whose side wound dismally narrow

paths with yawning gulfs beside. At last I dared not look down into the precipice but turned my eyes towards the mountain-wall not to be taken with giddiness. The Tadjiks, accustomed to this piece of work, crawled about with my sacks, boxes, kettles and tents on their backs like monkeys, without becoming tired. It grew colder, the higher we got, and a strong wind from the pass retarded our march or rather crawling very much. On our way through the moraines we sometimes used the natural bridges across the clefts after having examined them with the pike-staffs and employing the glacier ropes, and at 7 o'clock a. m. we reached the glacier itself. During the ascent I saw at some distance half a score of Ovis poli, out of gunshot, however, but even if it had not been, I would have let them alone; I had seen them so often before, and there was neither any use for the meat which is tough and nauseously sweet nor for the skin and horns, specimens of which I had secured on an earlier occasion for the Zoological Museum in Copenhagen. It is very amusing to see these large animals with their immense twisted rams' horns springing up and down the steepest mountain slopes, quick as lightning. The caravan came across some small greyish brown bears, but they disappeared as fast as possible among some blocks of stone; we saw lots of small hares as far up as the perpetual snow, where, by the way, there are tufts of grass and beautiful flowering plants.



Barbacan in the castle of Kalai Vamar. (Seen from the interior).

The piece of ground which was easiest to traverse was the glacier itself whose whole length, some 5—6 km., was as even as a floor compared to other passages in Pamir. It consisted of a greenish blue mass of snow, frozen and squeezed together, very rough and looking as if a harrow had crossed it while still soft, for high, narrow squares between the furrows formed by the imagined harrow, stood forth half a foot, running parallel with one another almost in the direction from south to north. These squares clashed and clinked when struck by the feet and on closer inspection proved to be perforated and resembled rows of stiff lace upon the glacier. The phenomenon is produced by the ice or snow forcing forward from the east or the west, for in either direction the mountains rise with steep slopes into high, pointed, in part quite naked peaks affording a very imposing sight. The holes and jags in the fields owe their occurrence to dust flying across the glacier, for wherever there was dust, there was a hole. It is, indeed, a very common sight where dust and stone meet with flakes of ice in sunshine. Most of the cracks in the ice were very narrow, not broader than a man or animal could jump across; but out of caution we generally used the ropes. Only across some cracks about 1 m. broad we struck bridges of the branches brought along with us, and then carpets, fur-cloaks and saddle-clothes were spread over the bridges which were cautiously crossed by the horses and donkeys as if they suspected the danger. One of the Tadjiks disappeared here; he had been seen walking about by himself, but whether he perished or had set out upon the return of his own accord, I do not know; he was gone away and remained so. The height of the glacier itself I measured to be 4398 metres, Regel has previously estimated the height at 48—4900 m., according to which the surrounding mountains of Roshan, should attain a height of about 5500 m., but this is certainly not right; I do not believe them to exceed 5000 m., rather to be somewhat lower here. In 1897 a Russian topographer passed the glacier of Odudy and came to the same result as I. A Russian officer has drawn a sketch-map of the glacier, and a photograph of this was kindly lent to me; here the shape of the glacier is shown, but unfortunately the scale is missing.

On the northern side of the glacier a very dangerous and troublesome descent awaited us. At the end of the evenly slanting saddle of the mountain ridge of the Roshan mountains, a precipice sloped downwards very steeply about 250 m., covered with lots

of loose material and large flakes of snow. Boxes, sacks and tents we let glide down the pretty hard snow slopes from one group of men to another by means of ropes, after the men had been hoisted down one by one to cut a terrace in the hard-frozen snow. Horses and donkeys were brought down in the same way, a rope twisted round their neck being thrown down to the terrace on which they were to stop, while men on an upper terrace kept hold of a rope fastened to the girth and the tail. Of course they first tried to walk down over the snow, but soon slipped round on the side; often they went too fast so that the rope fell out of the hands of those standing above them, and down they went at a flying rate, horse, snow and stones being all in a whirl until they stopped on a terrace. A good deal of the baggage was treated in the same way, and when all had got below the snow, we had to search out and bring together with great pains both animals and baggage in the moraines. Strange to tell, nobody took any harm, apart from some scratches and scars. I ascribe this more to my good fortune than to my equipment for such an expedition which I should not advise others to undertake if not in possession of better implements than those which I had been able to procure with my modest pecuniary means. The descent from here was comparatively easy there being on the whole way along the Âb-i-Maderaun (The River Maderaun) paths trodden down by the Tadjiks on their way up to mountain pastures from the valley of the Yashgulam. On its upper course the river has many affluents conveying at a dashing rate large quantities of great pebbles to the treeless limit at a height of about 3700 metres. Here all these small rivers or brooklets unite, and here I pitched my camp sheltered by birches, juniper and willows. Hamrakul prepared an excellent pillau, and over some glasses of tea and tobacco from a pipe I had made of some dry branches, having lost my own, we soon forgot the danger and the exertions. It was not long, however, before we had to struggle against still worse natural conditions. Not until such an expedition is over, does one really feel as if one were alive.

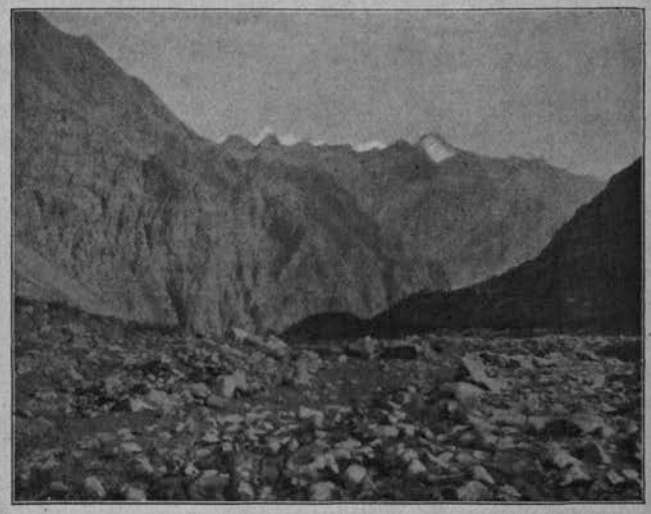
Odudy Glacier.

The next morning we and our beasts of burden hobbing and with sore limbs went down very steep paths, now winding over grassy mountain slopes, now crossing a chaos of stones on the

river. It was a very fine day, the sun was shining, as it usually does in Pamir in summer, various small birds were chirping in the willows, roses and juniper bushes, and delicious clear water rushed down over the stones into the river. I walked a bit in front of the others to kill some wild fowl, pigeons and mountain fowl. About 3 kilometres from the Yashgulam the valley of the Âb-i-Maderaun narrows to a breadth of only 25 m., the mountains rise like vertical walls on both sides of the river, but fortunately there is not more water than one is able to ride in. Between this narrow cleft and the Yashgulam is a widening of the valley where there are four groups of the ordinary flat-roofed Tadjik houses with small orchards all of which must, however, be considered as belonging to the town of Maderaun on the Yashgulam. In this town I halted at three o'clock in the afternoon.

Now we were in the small ancient kingdom of Darvas formerly governed by a native prince who declared himself to be a descendant of Alexander the Great, as most Central Asiatic rulers usually do. We were not very kindly received; the Aksakal of the town came, indeed, to meet us, but declared that he had received no orders to sell or procure anything for us, and, on the whole, he made light of us. I now asked where his house and garden were, and in the latter I pitched a camp without further ceremony, so that he might be responsible for possible disturbances. Nor were these long in beginning. About fifty men from the town soon took up a threatening position round our tents under the gigantic mulberry trees, several of them had such matchlocks, as are common here with a wooden fork fixed to the barrel, and large bows, a common hunting weapon here as in Vakhan. In a hurry I assured myself that my Turkestan companions had their revolvers and cartridges in order, although none of them had any great idea of the way to use them; I loaded all my fire-arms, revolvers and magazine-guns and piled up some boxes to form a small rampart in connection with my tent, from which I, kneeling down, was able to fire; all of us remained near the tents waiting for further events, while at a distance of about 30 steps the natives conversing loudly kept up their threatening position. Thus we observed one another for some time, and nothing happening I ordered a few of the servants to arrange some saddles and harness near the native assembly while I was ready with my arms near the tent. No sooner had my servants come near the group, than some natives falling upon them began cudgelling Hamrakul and Ulug Beg;

but the former was quick enough to shake off their hold, jump back some steps, draw his revolver and fire, but fortunately he missed his mark. As calmly and roughly as possible I cried out to them to keep quiet, and there being a moment's pause, I got time to make the Aksakal understand, partly in Tadjik language, partly by means of gestures that if he was not able to keep his people quiet, he would be responsible for all occurrences and would undoubtedly be hanged as soon as I reached the Beg in Kalai Khumb, who was the governor of Darvas under the Emir of Bokhara. This seemed to impress him a little, he made the natives retreat somewhat in the garden and began to discuss with me and my companions, what we wanted him to do; he promised to procure some porters for the next day and some sheep to be killed, and then he retired to his townsmen, who still remained near us eagerly gesticulating. I now resolved to make an end of the affair as soon as possible and again called the Aksakal, making Hamrakul fasten a piece of paper to the trunk of a tree at a distance of about 100 feet. I asked the Aksakal and his friends to notice my way of managing arms, and then I quickly fired a magazine of 17 shots at the paper. The natives, being curious, went up to the paper to see if there were really as many balls as reports and discovering all of them in holes in the tree where the paper had been, they smiled somewhat foolishly and retired less self-assured. I now asked the Aksakal to drive his friends to their houses at once, if not, I would by means of my guns, and after a long time he made them return; but the armed men among them cried out to me that they had 300 guns in the kishlak and were not afraid etc.

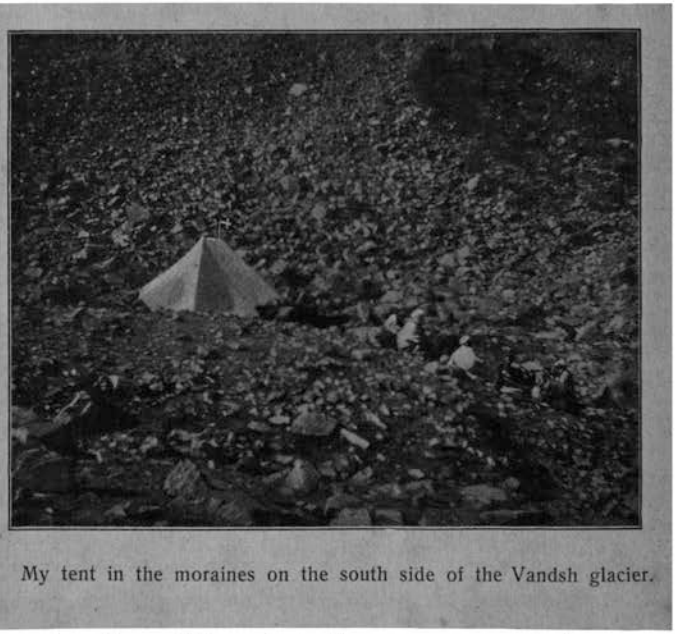


Descent towards the north from the Odudy Glacier. Where the plane flat in the foreground ceases, the steep declivity of the slope is about 250 metres.

The sheep, however, did not turn up, and we were all very hungry. I had sent for the Aksakal several times without any result, when an old white-bearded man at last came up to me and promised to procure two sheep and porters for the next day which he did. From him we learned that the Aksakal was a very wicked man, no Tadjik, but belonging to the Yashgulam population which had immigrated into the valley from the East. The old man asked me to explain to the Beg in Kalai Khumb what bad people the Yashgulams were and that he ought to assist the Tadjiks as they were always worried by the quarrelsome fellows. I promised him to do my best, and throughout the day the camp was quiet, but we could not leave it. Towards evening the old man with 12 Tadjik shepherds whom he had brought together, offered to sleep near our camp to prevent sudden attacks during the night. I accepted this offer, but nevertheless Hamrakul and I had to be awake by turns. It was an uncanny night in the pitch dark garden under the large mulberry trees, but several of the kind were as yet before me.

Early in the morning we and our Tadjik friends walked up the valley of the Yashgulam; the Aksakal did not appear; a few curious folk looked at us across the stone-hedges of the gardens, but tranquillity was not disturbed. I and our old white beard agreed that he and his shepherds should accompany us for good payment and presents along the Yashgulam and across the Vandsh mountains to Kalai Vandsh on the river Vandsh; this is a long way round to Kalai Khumb; but the road along the Yashgulam and the Pandsh westward is very difficult, and I was anxious to see something of the valley of the river Yashgulam the population of which I had been told differed from the Tadjiks. This is quite right. In some kishlaks along the river there are Yashgulam people, in others pure Darvasian Tadjiks, and the former differ from the latter in that their features have an ungraceful Mongolian-Turkish character. Their customs are said to vary very much from those of the Tadjiks, but I cannot give any information on this point having had no connection with them after the affair in Maderaun. I saw none of their women. Maderaun is a large kishlak with about 200 inhabitants. The valley is rather broad here, and everywhere there are gardens and corn-fields on the terraces. The Yashgulam runs from Maderaun due west to the Pandsh so that a full view is obtained throughout the valley to the high snow-clad mountains on the western bank of the Pandsh in Badakhshan. At Maderaun a bridge

is thrown across the river, here about 30 metres broad, and the path now follows the right bank, now the left, often crossing the river; but everywhere there are bridges although fragile, made of boughs and flat pieces of slate. The mountains, on both sides of an imposing height and snow-clad, go straight down to the river where a narrow, but good path repaired by the population leads through endless blocks of stone; often the path is so narrow that the horses could not get through when loaded, and we had to unload the baggage; only where the small affluents appear, the valley widens out, and here are the kishlaks, all of them very idyllic and surrounded by fertile fields and gardens. Delicious grapes and peaches grew in large quantities.



My tent in the moraines on the south side of the Vandsh glacier.

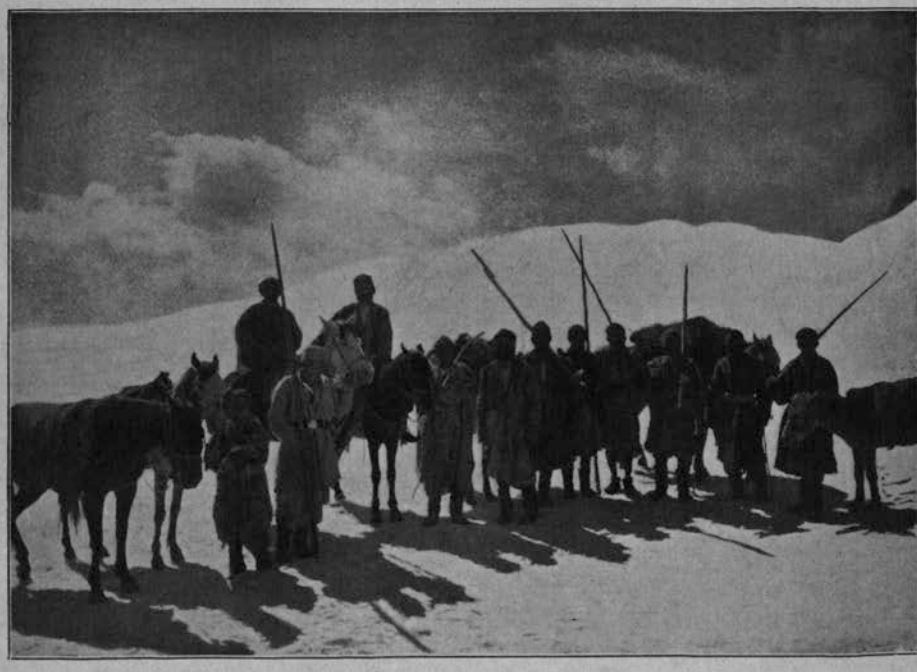
We halted now and then to eat fruits wherever our Tadjik porters knew that Tadjiks lived and where there were only Yashgulams we could now apply the only manner of proceeding respected by the disagreeable fellows as we were twenty men to keep together. Some 4 kilometres from Djamdjah the passage again is very difficult, running steadily up and down almost vertical slopes of granite and often through a chaos of blocks of stone; the last descent to the kishlak of Djamdjah is very dangerous and troublesome. Late in the afternoon we halted in this kishlak among the Yashgulam people residing here, and several times the latter and my Usbegs and Tadjiks came to loggerheads; the inhabitants would neither sell us anything nor permit us to pitch a camp, but we were not intimidated by the nearly 50 inhabitants of the town, and the night passed off without any disturbances. Early in the morning I awoke on hearing a violent fighting between Hamrakul and the Aksakal of the town; but seeing that Hamrakul was getting the upper hand, and nobody

else meddling in the affair, I let them alone, still intently watching that neither of them used other weapons than their fists. Immediately north of Djamdjah we turned westward along a small affluent leading from the pass of Guskom which we had to cross to Kalai Vandsh. Higher up the Yashgulam the valley looked very narrow and on the whole poor and desolate; its upper course is still unknown. Here the old man from Maderaun returned to his home and left us to his son who was to be our guide across the pass, being himself too old for the imminent hard spell.

In the last Tadjik town we had bought some of the strong woollen ropes made here as by the Kirghiz and some pike-staffs used by the natives for mountain-climbing; we hired also some extra assistants, so that now we were 36 men. Sometimes I had to be in front of the caravan together with a guide, or we were obliged to halt and let it pass by to see if all were there, for a porter in these regions often sees his chance of disappearing behind the rocks and then returns to his kishlak with the burden, especially when only at a shorter distance from it. Across innumerable fragments of rock we toiled onwards, now on the right, now on the left bank of the river; there are many small waterfalls surrounded by groves of willows, poplars, roses and copse. It was a very difficult passage, every moment the horses tumbled down even when not carrying any baggage, and the blood ran from scratches and scars contracted in the fall. The pack-saddles hang in rags on them, torn by rocks and stones. Later in the afternoon neither animals nor human beings could work any more, and we pitched a camp among the desolate heaps of stones somewhat below the glaciers at a height of 3548 metres. From here we could see the glaciers which by themselves were reason enough for our peeping anxiously aloft. Add to this the difficulty that most of the porters refused to cross the pass, as the ragged harassed fellows here as in many other places believed the devil to live on the other side of the pass. Many people in these regions often stay in their valleys for life and never get out of them. I succeeded in calming them down a little and partly forced, partly induced them to lie down and sleep in some rugs and carpets among some blocks of granite, convincing them that they would be able to keep warm when lying close together, for it froze hard in the night. Then we lighted some large fires near them, and all round I placed 7 men whom I could trust, that they should not take the opportunity of disappearing. As to myself I rested a little in my

tent, but sleep was out of the question in the dreadfully cold night, and every moment I went out to see whether things were all right. The whole afternoon far into the evening we had at the light of the tent lamps worked at mending saddles and ropes for the next day, and at 3 o'clock in the morning we rose and had our breakfast consisting of warm water, the tea having run short, a small bit of dry mutton and a few biscuits.

Blue with cold the porters again limped upwards on their sore



Part of the First Danish Pamir Expedition on the Vandsh glacier.

feet which were wrapped in indeterminable bundles of rags; they resembled anything but glacier-climbers, and in my own mind I was pretty sure that I should reach Kalai Vandsh on foot with only a few of the men, my maps, photographs and the other fruits of my journey, a result with which I would be content. Here I give a copy of my diary: The guides knew or believed they knew that the pass was due north of the place of encampment, and in this direction we mainly went on. Crossing a mountain chain is, however, a different thing from crossing a ridge. One easily loses one's way among the innumerable ravines and clefts. Many small passes must be traversed before the main pass. We had splendid

sunshine, and perspiration streamed down our faces while slowly climbing the one hundred feet after the other. In a ravine we ended in a cul de sac where a vertical granite wall in front of us barred the passage; we had to go back and descend the 1000 feet which it had taken hours to climb. A path winds round an apparently conical mountain; the road is smooth, we mount the horses to rest a bit, but soon we are obliged to dismount. Here the mountain giant rises no less than about 12000 feet from the river meandering like a silver thread in the valley; rarely or perhaps nowhere in Pamir is there a view of such immense profundity; but the thought of rolling down and down and never stopping made us feel a little dizzy and look towards the mountain side. The air grew thin, at every 4th or 5th step both men and animals stop to draw breath. Then again onward among rocks and stones, the scenery becomes more and more desolate, the naked rock more and more prominent, the blocks larger and larger; the horses are often hauled up by ropes from one terrace to the other, then one breaks loose, runs down and tumbling over the stones rolls down a slope. Some of us run to see whether the animal can be saved or must be killed. On all fours the porters crawl upwards among fragments of rock, one here, another there, and sometimes I am obliged to use my telescope to count them. When booms are heard from above, a signal horn, procured at home, is sounded by one of us as a signal that one of the slides occurring nearly every hour takes place. A colossus often large enough to crush a village rolls down after having got loose; it strikes out sparks of fire all about and disappearing in the depth takes along with it many other blocks of stone, and a crackling and exploding noise is heard long afterwards from below. We are in the moraines, these confused masses of hills and valleys made of shattered stones broken up by the abrupt changes of temperature. Here and there larger quantities of snow appear; it is often frozen into bridges from one moraine heap to another. We use these bridges with great caution, glad for each left behind us. Leading the animals by long ropes we walk slowly among the easily moved stone heaps; if one large stone gets loosened, the whole mass begins to rush down. I try to take a short cut alongside of such a heap: it crackles and clanks above me, the whole slope is slipping down. Sideways like a crab I toil onwards on all fours; behind me I see the whole slope tumbling down, only one little stone succeeds in hurting one of my fingers. The „firn"snow goes on increasing the higher we ascend, Ulug Beg disappears in it with two horses and has to be

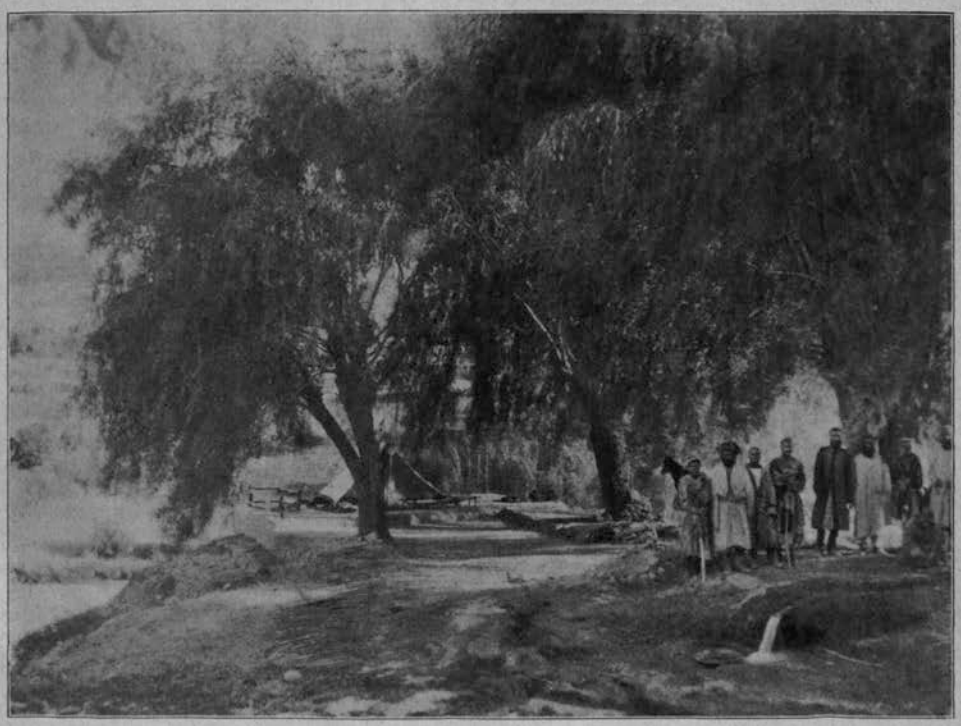
hauled out by the ropes which now connect my companions 5 by 5. It becomes dreadfully cold in the ravines surrounded by naked pointed peaks, threatening masses of snow hang down from the sides of the tops, it is more and more difficult to keep the course, the passages grow worse and worse, and almost simultaneously one's eyes must be turned upwards, to the sides and downwards. Steadily the air becomes thinner, each step more difficult, one's boots feel like lumps of lead, and the blood appears under all one's nails. Soon we had to move upwards through mere frozen snow the surface of which had been softened by the sun. Some of us first ascended a piece of way fixing sticks in the snow and using them as ladders and seizing the crust of the snow with our fists, so that we were able to rise by means of our elbows. Having thus advanced some feet up the slope we lay down and trampled and kicked holes in the snow with our hands and feet. Then we cut a small terrace in the snow hauling up to the terrace one burden after the other, one animal after the other. Subsequently we advanced to the next terrace, men, animals and baggage being distributed on several terraces. On the sun rising the snow became soft, and the cutting of terraces and steps was very difficult. Often we slid down in the soft snow, and were obliged to stick fast almost like leeches to prevent ourselves from being dashed to the bottom. It is little less than marvellous that the horses got up here. In the afternoon we reached more even plains, on the whole looking like an undulating plateau interrupted by a few pointed peaks which jutting out of the snow stood sharply outlined against the white base. Waste, infernally wild and silent it is up here where no sound is heard. The air is infinitely thin, we breathe with our mouths wide open, and yet

The source of the tributary Âb-i-Vandsh just below the west side of the Vandsh glacier.

we feel a half insane desire to climb steadily higher; for we see nothing but the nearest summits, dark rocks and mighty wreaths of snow and masses of ice. Towards evening we reached a very large glacier the tongue of which was winding in one large swing towards the south-west, it was divided into two by a smaller moraine running lengthwise through them, similar glaciers were seen all round us and seemed inaccessible. I suspected that we had got too far north, and as it was impossible to advance further that day, we remained over night on the glacier itself and slept in our fur-cloaks as on eiderdown. Towards evening it came on to blow half a hurricane, and cold winds, so to speak, rushed down upon us, but later on there fell a dead calm, the stars shone large and bright from a deep, dark blue heaven. In the evening I calculated according to the reckoning made by means of compass, watch and pedometer that we were too far north to be on the way to Kalai Vandsh, and I therefore made ready for acting as a guide. At about 2 o'clock in the night I called my companions whose limbs were stiff from cold and exertions. Many glasses of warm snow water of a nauseously sweet taste were necessary to make our limbs somewhat flexible. After a little climbing we reached smooth, greenish blue glacier plains; I now followed the glacier towards the south-west. We walk as it were upon a field of frozen straw which clank like burst steel. Sometimes there is a boom, it is the mass of ice cracking. All stop, nobody says a word, we proceed again, and some brave young natives in front of us at each step cut the glacier with their pike-staffs. "There is a fissure before us", cries out one of them; lying flat down we examine it and peep down into a very deep cleft. The branches are taken out, and we secure a bridge across the 4 feet broad cleft; ropes are fastened on both sides of the primitive bridge, some natives having one by one crawled cautiously across it. Four or five men keep hold of the lines on both sides, and then the caravan passes. Thus we cross several cracks, until rather suddenly we are in front of a rocky wall of gneiss rising above the ice fields and forcing the glacier to turn again north by east. This wall was the mountain crest proper rising about 14 metres as a rather sharp ridge above the ice and snow. I counted my companions; nobody was missing.

We crawl up the rocky wall by the help of some roughnesses in its surface to gain an outlook and from here looking down the narrow valley of the Âb-i-Vandsh I caught sight of the river Vandsh. Nearly in

the same way as bricks are hoisted up to a building, did we hoist horses, donkeys and baggage up to this ridge which was so narrow that we had to arrange all in single file. I measured the height to be 5547 metres according to an aneroid barometer, but I must add that I dare not reckon with less errors than about 200 metres. The mountains lay below us as on a raised map, an endless number of chains

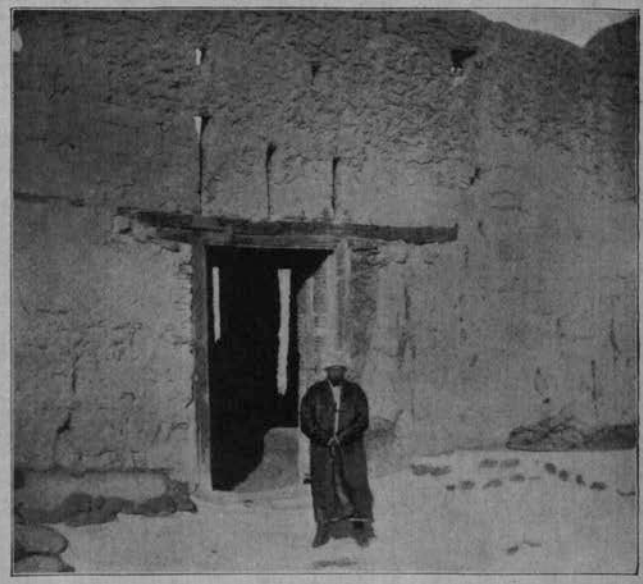


My camp-tent under the shade of the willows at Kalai Vandsh. In the ravine in the background the river Vandsh.

and valleys, smaller or larger mountain rivers and cataracts, greenish blue glaciers and „firn"snow, desolate plateaus and jagged peaks lay in one maze down there; all slightly veiled by a delicate transparent stratum of clouds. The light reflected from glacier and snow tormented eyes and brain fearfully, and the sun burned wounds on face and hands. On the north side of the pass or the roof was another small glacier sloping downwards only about 100 metres, but to make up for it very steep with much snow and many moraines. All of us had to be lowered down by ropes to cut terraces for baggage and animals. In long ropes boxes and bundles went down,

and then the animals in the same way, wrapped in felt carpets with their legs tied together to prevent them from kicking about; then they slid down sideways to those standing on the terrace, and owing to the felt were not hurt. We descended further across rapid, roaring mountain brooks filled with stones, down abrupt slopes, across a chaos of stone heaps, along dizzy precipices to the treeless limit where we made a halt in the afternoon in a small copse of willows, juniper and roses beside the mountain brook which was here some 3 metres broad. We eat our last small allowances of mutton and bread together with warm water and examined pockets and sacks, but nothing more was left. We had to continue our march to Kalai Vandsh, at any price, but I was so hungry that several times I thought of eating raw some small birds which I killed marching along. Half unconscious, half drowsy we descended along the Âb-i-Vandsh. The distance from the Vandsh was only about 12 kilometres, but the fall was very abrupt, often we could not get through the valley, for the river passed between vertical mountain walls and there was too much water for riding in it. Then we followed the paths trodden by the Tadjiks, down again to the river, across a ford to the opposite bank, through almost impenetrable copses tearing our clothes, across stony masses sloping downwards very steeply. Our limbs become more and more sore, we are possessed with hunger and the thought of finding but one piece of flat ground, and our heads grow as heavy as lead. Here and there in a widening of the valley we passed by idyllic small copses where wild cherries refreshed us a little, besides there were on the nether course of the river lots of wild birds, especially pigeons and mountain fowl, but we let them alone, hurrying on to reach Kalai Vandsh that day. At sunset we reached the river Vandsh where the valley of the Âb-i-Vandsh widens out to a broad funnel paved, as it were, with pebbles of twice the size of a human head, and now an enchanting landscape was before us. To the right and left the Vandsh roaring in many arms among small wooded islands in a deep ravine formed by erosion, and on broad terraces, the river banks, some 50 metres above the river which conveyed a comparatively small quantity of water at this time of the year, were one large kishlak beside the other, all shaded by fruit-trees and singulary large willows. Along steep gravelled paths where the horses almost slid down on their hind quarters we rode across the 100 metres long bridge to the castle of Kalai Vandsh commanding with its square clay,

towers the kishlaks on the right bank of the river. The Bokhara Beg residing here, dressed in a motley silk caftan, received us followed by a large attendance of Aksakals in white woollen dresses, and assigned us a place of encampment in an enchanting garden near the river. Soup, meat, poultry, eggs, grapes, apples and tea were brought to us in large quantities, but I was almost too hungry to eat anything. During the latter part of the descent the day had been hot; about 27—28° Centigrade and such a fatiguing march tell on one's strength. I immediately lay down to sleep and did not wake till the sun was high.



The Beg at Kalai Vandsh
in front of his castle partly destroyed by earth-quake.

It was impossible to proceed further that day, and therefore we remained here til the 7th of September, it was a pity that I could not devote more time to this place where much of interest ought to be investigated, I had to hurry on not to be shut up by the snow in Pamir. Later on I often wished that I had stayed quietly in Kalai Vandsh during the winter; for the valley as it lay before us in the sunshine was tempting for a longer stay.

Around the Beg's ruinous castle which was furnished with towers, loop-holes and carved wooden gates were house by house, farm by farm, all of these shaded by the most fertile gardens traversed by innumerable small irrigation canals; you have an uninterrupted view far up the river Vandsh, and everywhere are seen cultivated fields where the corn is now reaped, and where the oxen, four or five tied together to a stake, are driven round by a small, almost naked boy and thrash the corn by trampling upon it. The natives are seen cleansing the corn by throwing it with large wooden shovels against

the wind so that the chaff may be blown away. On the roofs are fruits drying, the grapes hang down in large clusters on the trees or the yellowish grey house walls, the stone-dikes are covered by the funny looking pomegranates the fruits of which hang at the end of a long thin branch as if suspended by strings on the trees, and fig is beside fig in large shady trees; there are two kinds of figs here, one grows on trees often of the same size as our gigantic oaks, and being of a reddish grey colour they at first sight are very like Lammas pears; the other grows on rather low bushy trees, is yellow as the yolk of an egg and flattened in shape. The latter is exceedingly sweet. Round about the territory was canalized with great care, across ravines the water was often conducted by means of wooden pipes at the same time used as bridges, such as are also known at Seistan etc.; these pipes often crossed each other, and when one passed a lower bridge or wooden canal the water could be heard roaring in another above you. Green tree-tops, for instance gigantic platanes, were seen in large numbers up the picturesque valley, and amidst the green peeped forth here and there white square pieces of cotton fields. On the tree-tops bending to the wind, the yellowish grey walls would shine out or a square tower appear; the latter are very frequent. There are many well-to-do landlords living in their fortified castles with their harem, their dancing boys and serfs. Towards the east is seen the steep and very jagged, imposing alpine chain, the Vandsh mountains, the crests of which are all crowned by snow and glaciers, while the lower parts are very idyllic owing to the trees and bushes growing beside the brooklets. An arch of perpetual snow emanating from the Vandsh mountains across the sources of the river Vandsh to the Darvas mountains westward shut up the horizon. Towards the south-west the curve of the valley cuts off a further outlook. The valley is, so to speak, totally shut up by snow both to the east, north and west, there is, indeed, a passage from Kalai Vandsh across the Darvas mountains to the river Khingau and further across the pass of Gardan-i-Kaftar (Pigeon Neck) to Karategin, but this is very dangerous and covered by snow early in the autumn. By the way, the mountains of Darvas are one of the most imposing chains of Pamir, a snow chain of the first order.

The gardens in Kalai Vandsh were very well kept, and besides useful plants there was a very rich show of flowers among which poppies for the production of opium, and sunflowers, the seeds of which are eaten as in Rusland, are never lacking. Of vegetables

many kinds of beans, peas, melons, pumpkins, and a sort of nightshade whose fruit when boiled is of an excellent flavour; something like a small gherkin, but coal black. It is conceivable that we felt as if we had passed from hell to heaven, principally as the Beg turned out to be a very hospitable man, who even invited us to take a view of all the rooms in his castle; but of these no more can be said than that all were gapingly empty; only here and there a carpet and a mat of durra-straw on the floor, and even the room bearing the name of harem looked like the others. While we stayed here, his wives had been led out. From the rooms there were ladders to the flat roofs and to the towers with their crenelated parapets and machicolations, but no arms were to be seen, they were all kept in a locked room, said the Beg. It must be inferred from this that he counted upon peaceable times, for it would take a good while before the old matchlocks could be got out and the soldiers reach the towers. The most common weapon here besides the forked matchlock which is only in the possession of more well-to-do people is the long bow as in Vakhan; nearly all males from boys to old men were seen with such a one. Both the one-stringed bow with arrow and the two-stringed one with a piece of leather on the middle of the strings to project stones are in use. I saw many people shoot well with them, and they are much used when hunting wild birds; but the principal sport is hawking which is carried on with great zeal all over Darvas and Karategin. Every second male was seen walking about with a small hawk on his leather gloved hand. On his head the bird carries during the ride from one place to another a small leather hood which prevents him from seeing, and one foot is furnished with bells which enable the hunter to recognize where it is flying about. During the hunting parties at which I was present it often happened that the falcons remained for a long time in the trees until the hunter by means of a piece of flesh stretched aloft and luring calls made them come down on his hand again.

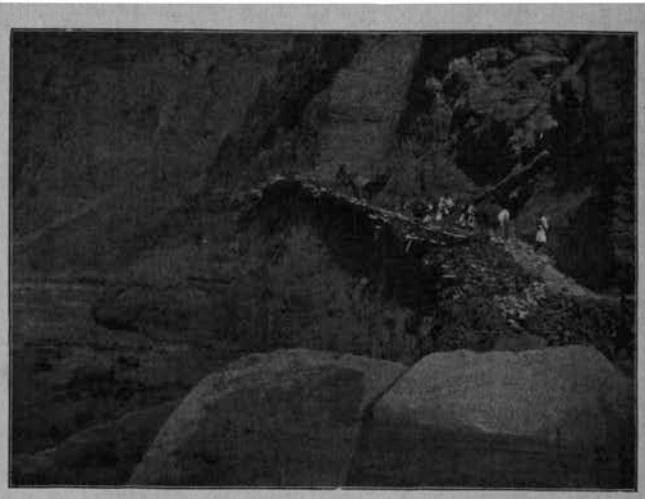
While I was staying here, an Aksakal dispatched by the Beg in Kalai Khumb wanted to learn how soon I intended to make my entry into this town, as he put it, that the Beg might be prepared in time; a patrol of Russian customs' soldiers, as they are called here, who to the number of 20 men were stationed in Kalai Khumb in charge of a non-commissioned officer likewise arrived. They had heard of a foreign European approaching their station, and as nobody but the Bokharan authorities had announced

my arrival, we were obliged to discuss matters for a long time with the soldiers to make them understand that we were allowed to pass by. From the Beg we received new horses and porters, and we bought a good supply of provisions among which some water-pipes with appertinent green tobacco, not worth much, indeed, to fastidious smokers, but still better than the dried apricot leaves with which I like the natives had often put up; the pipe was a hole in the ground into which a straw was put aslant, and then one had to lie down flat on the earth and suck the straw.

During my stay here I experienced a less agreeable natural phenomenon viz. a violent earth-quake during which some of the Beg's already ruinous towers fell down. In the afternoon the 6th of September suddenly a curious calm fell upon the valley, it was as if a thunder-storm were on the point of breaking loose, a mysterious noise was heard from below followed by a crackling explosion, in part, judging from the sound, from below, in part owing to stones rolling down over the mountain slopes. The earth moved under us as if we were standing on a thick fluid mass, we tottered to and fro, it was impossible to remain upright, we had to lie down. The mountains and the bottom of the valley seemed to rock like a cradle from north to south and it looked as if the sun were jumping up and down the mountain crests so that here one might really speak of seeing the sun dance. Cries and shouts from human beings and bellowing and bleating from the beasts were heard all round. The whole affair lasted but a little while, I dare not say how many seconds because all of us were, so to speak, paralysed by the dismal phenomenon which lasted, after all, for me to pull myself together and see what the scene looked like. The earth-quake being at an end a rather strong gust of wind suddenly swept across the valley. As far as I know no disasters of importance occurred; only one of the Beg's towers fell down. I had expected to be accused of having caused the calamity, but the Beg declared that earth-quakes were common in this valley.

Early in the morning before the heat became too oppressive in the sheltered valleys we took leave of our hospitable host and marched off followed by a large attendance of Aksakals in their fine white woollen caftans and ragged almost naked porters; first along the river Vandsh and then along the Pandsh to the kishlak of Dashmak. Here there is a good bridle-path nearly everywhere, only in a few places had the horses to be unloaded and the porters step into their relief; as a rule the latter walk beside the ani-

mals helping them through when the passage among fallen down blocks of stone became too narrow. The scenery on the lower Vandsh is much poorer than from Kalai Vandsh upwards. The banks are narrow and sterile, very small kishlaks or groups of houses to which small mountain brooks brought scarce water, were met with now and then, and on the junction of the Vandsh with the Pandsh we waded through large stretches of quick-sand. The Vandsh conveys a considerable quantity of water in a very deep river-bed overfilled with stones and granite blocks; everywhere it is unpassable, and owing to the strength of the current it can only be crossed in one place by means of inflated skins. Immediately on the junction of the rivers there are a large group of kishlaks on the Afghan side; on the Bokharan side kishlaks are seen only several kilometres westward. Here the glacier in the mountains of Darvas again begins to yield plenty of water, and we passed by three great villages before reaching Dashmak. Passing along here one sees in the north nothing but high, naked steep mountain slopes, in the south the large glaciers on Kuh-i-Kalân in Badakhshan. As soon as we approached a kishlak we were surrounded by curious crowds; their long bows made me think of Africa.



The First Danish Pamir Expedition
crossing a gallery along the Pandsh west of Dashmak.

In the kishlak of Dashmak we pitched a camp in the garden of the Aksakal, where a meal had been arranged for us consisting of poultry, eggs and fruit. The change of horses and porters took place peaceably and the day after we continued our march along the Pandsh. The road is good as I have written in my diary i. e. it has been improved by the natives, so that one can remain in the saddle, so to speak, the whole stretch when accustomed to ride over stock and stone; but it is not made for

delicate nerves, being very narrow and generally cut into the rock several metres above the roaring Pandsh. In some places the road is laid out as a gallery of trunks of trees, branches and flat slate-stones along the vertical mica-slate wall which rises to a height of about 1000 metres from the river. In most places a valley is out of the question; for there is only a deep river-bed in which the water rushes on in foaming cascades with no river bank whatever; the slightest slip or the stumbling of a horse is certain death. Some of the natives always crossed the fragile galleries first to try their bearing strength, and then the horses were led by long ropes one by one to a more solid point or a widening in the cracks. The valley is a wild, imposing, deep, narrow and dark cleft, quite impassable if not for these galleries which in time of war are broken off by the population. Some kilometres west of Dashmak the road leaves the Pandsh, as the cleft is impenetrable here and crosses the pass of Pishkarv and a few other passes of less importance; the route crosses a small tributary from the north to the Pandsh by several easily accessible fords and then again proceeds on the above mentioned dangerous mountain paths and galleries. Sometimes the valley widens out to make room for kishlaks and gardens with apricot and mulberry trees, tobacco, sun-flowers and small cotton fields, but the ground is stony and poor, possessing nothing of the luxurious fertility of the river Vandsh; blighted granate bushes beside brooklets and in cracks are the principal growth, and the territory outside these poor residences is desolate and barren. Many of the inhabitants here suffered from the struma. The illness is very common in Darvas and Karategin and rather common in Turkestan where even some German merchants were attacked by it.

The population here are everywhere Tadjiks, vigorous and more muscular people than I was wont to meet with in the valleys of Pamir; many of the almost naked porters were real athletes judging from their appearance; they wear white wollen dresses and a small brown hood on their heads, as in Vakhan, or a small piece of white cotton twisted round the head, a modest substitute for a turban. In some places the women immediately fled before us into the houses, in some they went up to us together with the men unconcerned and unveiled to meddle in the bargaining for a sheep or some ethnographic objects. Their dress, like that of the men, was of white woollen stuff or white cotton, a sort of woollen or cotton chemise and a head-gear in the form of a small white cotton cap some-

times covered by a white kerchief. Nearly all of them were barefoot or wore a sort of half-boots of untanned leather. In a kishlak almost half-way between Dashmak and Kurgavat we found an opportunity of observing some women at close quarters; halting in a large kishlak at one of the common rows of small water turbines beside the mountain brooks we saw two women grinding corn in such a mill, and my appearing before the door prevented them from slipping off. Here as often in the valleys of Pamir I was struck by their regular fine features as always, however, covered by dirt. The corn was ground as with us coffee-berries; one of the women poured the corn with a small wooden spoon into a diminutive quern. This method is not followed owing to any want of large mills, but owing to a tremendous poverty in the valleys of the Pandsh and the extortions of the officials. In the afternoon we stopped in the kishlak of Kurgavat — after a small intermezzo with the porters in a kishlak who suddenly either threw down the baggage or ran off with it, disappearing in gardens and clefts. No doubt it was a put up thing between them to steal the baggage and take along with them all that could be of any value to them. Now followed a pursuit of an hour to capture them, which was done by the help of the elders of the town who were able to distinguish them from the inhabitants of the kishlak; this would have been very difficult for us.

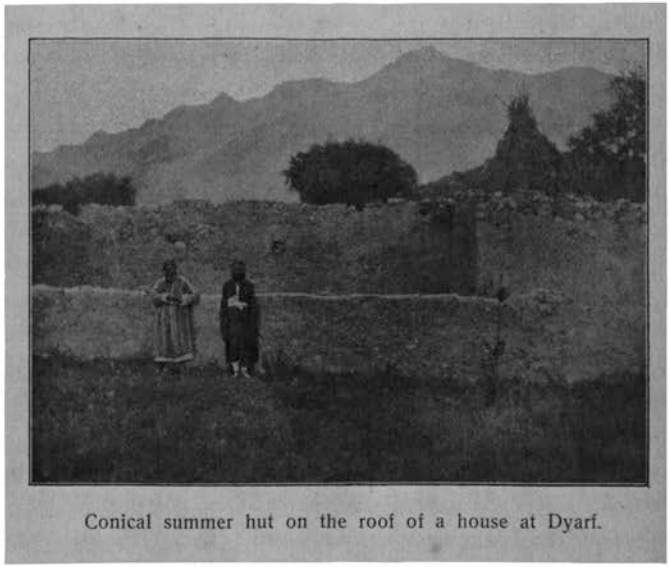
Summer hut on a bridge
across a mountain brook at Kurgavat.

At Kurgavat some deputies from the Beg in Kalai Khumb had arrived to let me know that I could obtain gratuitously what I wanted on my march to his town. It was very polite of the Beg, but knowing that not he but his poor subjects would be the sufferers, I did not avail myself of the permission. It proved to be

sufficiently difficult to get on to his residence although the assistance was paid very dearly, and many further inconveniences certainly would have ensued, if I had accepted his offer. Kurgavat is a magnificently watered, fertile and idyllic kishlak, but the place is swarming with scorpions which we had to sweep off the tent places within a large circuit, before we dared go to sleep, and in the night we were tormented by mosquitoes as in many localities already passed by. By the help of the two deputies from Kalai Khumb the change of horses and porters took place without further wrangling, and we continued our journey as before along similar narrow bridle-paths cut into the rocks or on galleries beside the Pandsh which, about 40 metres broad winds in numberless and noisy curves down through a narrow cleft with vertical walls, often without any vegetation except where the mountain brooks appear. There are many, but very small widenings of the valley where the Tadjiks cultivate the ground, but on the Bokharan side there are no large villages before arriving at Dyarf; only a large number of isolated houses where the water flows sparingly down from the glaciers. The distance seemed incredibly long that day owing to the incessant curves, loop after loop, always the same noisy river, in some places forming rather considerable waterfalls, always the same steep walls, the poor small houses and no view of anything but a little bit of blue heaven as the roof of the cleft which was terribly hot where the sun got in and dreadfully cold in the shade. Sometimes the tributaries from the north formed very high waterfalls rushing down among a small group of bushes of wild roses, wild cherries and pomegranates, and on the Afghan bank the kishlaks seemed larger and better watered than on our side. In several places the inhabitants had secured coolness in a very funny way, having built small square houses of branches on bridges of osiers across the mountain brooks; here they lived in summer on some carpets and rugs. Incessant draught through these cottages besides coolness from the water streaming along beneath them enabled the inhabitants to stand the high summer temperature without any inconveniences from gnats and scorpions.

With a clever Aksakal from Kurgavat to guide the caravan we reached, heaven knows how, the kishlak of Dyarf safe and sound with the baggage after having ridden several hours in the dark on the perilous paths. Through many gardens and dark walks conveying the impression of a thick forest he led us into the large village to an open place where many Tadjiks, clad in

white, were assembled round a fire which had been lighted to enable us to find the place of the encampment. This is one of the few occasions on which I have entered the villages of the natives in the dark; this might have been dangerous, for I did not know where we were led, but I trusted the Aksakal who knew that I was in connection with the Beg in Kalai Khumb, and seeing the usual meal of welcome consisting of small round loaves, soup, meat, eggs and fruit, I perceived that we were the guests of the village. The meat at such meals was always mutton; for they have many sheep and goats, not so many cows; the latter are of a small, short horned race the colour of which is changing as in those in Denmark. There are also many donkeys, few horses, the latter somewhat larger than the Kirghiz horses. Poultry of a small race are found everywhere in the inhabited Pamir which is very convenient for travelling Europeans, as at all events some eggs can be got which gives some variety. Add to this the fruit and the small loaves made of mulberry flour, often very savoury, and it will be apparent that provisioning is rather easy, supposing that the inhabitants will furnish it.



Conical summer hut on the roof of a house at Dyarf.

After a night's sleep disturbed by mosquitoes I was awakened by a fierce scolding rising from a small fight between one of my Sarts and a native Aksakal. On my appearing in the tent door the scolding soon ceased, but the day did not end better than it had begun. Owing to the fatiguing marches of the preceding day we stayed one day here, but throughout the day long negotiations were carried on to provide what was necessary to sustain life in this rich and well tilled, small oasis where fields and gardens were overflowing with food and where, for one thing, there were a tremendous lot of figs. As in some places in Vakhan the Tadjiks here build conically shaped huts of branches and osiers on the roofs of

their clay-houses; in Dyarf we saw many both of this kind and the above mentioned summer houses on bridges across the rivers. The huts on the roofs are like large bee-hives and are used as summer residences at the warmest season. Before leaving Dyarf I shall only draw attention to the pass roads near Kurgavat to the upper course of the Khingau west of the glaciers in the Darvas mountains and the southern passage across easily accessible passes to Badakhshan. Along the affluent of the Pandsh east of Dyarf another pass road leads to the valley of the Khingau. The two northern pass roads have not been known hitherto; the Darvasian glaciers were thought to stretch farther west between the Khingau and the Pandsh, so that there was no room for a passage northward in this part of the Pandsh valley; but the year after my journey here a Russian officer traversed these routes.

From Dyarf we went on directly to Kalai Khumb having first with great difficulty made the Tadjiks hire out baggage horses for us. Thus far the road is improved so that one remains in the saddle nearly the whole time, but it is narrow and often passes by dizzy precipices looking down upon the Pandsh whose curves, waterfalls and cataracts here seem to outdo themselves. A little west of Dyarf the Pandsh makes a large bow to the south-east, and here one can take a short cut across the easily accessible pass of Kaivak; but descending from here to the Pandsh the road again follows the course of the latter to Kalai Khumb. From the pass which leads to a small isolated collection of mountains there is a wide prospect to the west to the valley of Kalai Khumb, and here one meets with the rare sight of rather extensive woods on the mountains north of the Pandsh, whereas the south side is devoid of woods, for everything is parched up by sun and drought. The slopes of the pass are studded with pieces of slate and are full of garnets, a species of stone so exceedingly common all over West Pamir that in some places one might collect barrels full. Riding down over the northern slope of the pass of Kaivak, we saw a large procession advancing towards us, a real caravan of mounted Mussulmen in motley caftans and with large white turbans on their heads like those known from Bokhara. On our approaching all dismounted, and a tall handsome Bokhara man informed me that he had been dispatched by the Divambegi (prime minister) in Bokhara to be my attaché during my further travels in the Bokharan provinces; his attendants were officials from the Beg in Kalai Khumb who even now wanted to bid us wel-

come to his town. The Bokhara man belonging to the Usbegish race fortunately spoke Turkish, so that both my Sarts from Turkestan and I could converse with him. The Divambegi in Bokhara upon whom I had called on my way out, had heard of my travelling in Bokhara, and thinking now that I would continue my journey to the west directly to Bokhara, he had dispatched this man whose name was Mirza Abdul Khader Beg to accompany me and arrange all that was necessary on the part of the Bokhara government. Mirza, as we called him later on, proved to be a very amiable man and we soon agreed that he should go along with us eastward over Osh in Turkestan and then return with me to Bokhara. Later he accompanied me on the second Danish Pamir expedition in 1898—99.

My tent in the Beg's garden in Kalai Khumb.

In a kishlak where one of the attendant Aksakals and deputies from Kalai Khumb resided, we made a short halt to take lunch in a shady garden where the Aksakal treated us with an excellent pillau, lots of fruit and Bokharan cakes and sweatmeats, while a sort of large punka, a fan, turned round by a small turbine mill spread an agreeable coolness all over the rising ground on which we rested on carpets. In spite of it being the middle of September the heat was generally very oppressive and became even more so on our approaching Kalai Khumb; we had, indeed, descended about 1600 m. (With hypsometer I measured the height of Kalai Khumb above the level of the sea to be 1605 metres). We rode through very few large kishlaks in this district, and the Afghan mountains rising steeply from the Pandsh were desolate and barren up to the outlet of the Âb-i-Shirin. Here are large Afghan residences and a huge fortress with towers and bastions in mediæval style and form, Kalai Nosai, containing about 300 horsemen. When we passed by they were being drilled on an open space near the bank of the river.

Their exercises were something like cossacks' exercises; a few riders or small groups of them, all dressed in red coats, galloped yelling to and fro, firing off their guns from the horses' backs or swinging swords and lances; a very picturesque sight, indeed. Near Kalai Khumb whose luxuriant valley we caught sight of only at close quarters, now one, now another rider rode in full speed towards us along the mountain path and then rushed off again to Kalai Khumb to announce our approach to the Beg, said Mirza. Among Bokhara people one grows accustomed to many ceremonies, but still I had not excepted to be received with so much honour as that which now awaited us.

At the entrance of the town through a long avenue the Russian customs' soldiers under command of a non-commissioned officer had been drawn up and saluted us on our passing by, a little farther off the Bokharan guard was called out from a small clay-house and presented arms, but I became even more astonished on our turning into another avenue and then into an open space, for here was drawn up on parade a native Bokharan battalion, of whose presence I knew nothing, with colours flying and a band of 50 men. Arms were presented, the Bokharan march of honour, well known to me, was played, and the colours, very like large flowered pocket-handkerchiefs, were lowered while a mounted colonel, dressed in a uniform embroidered with gold, and wearing a large fur-cap on his head, together with his officers saluted with their sabres. I could not help looking a little up and down myself; for my gala-dress was a Danish hunting-coat trimmed with a pair of old lieutenant's epaulets, torn, yellow leather-breeches and a white Russian officer's cap, across my shoulder a Winchester carabine and in my belt a Circassian dagger and some revolvers. I looked like anything but an inspector-general, but soon pulled myself together, and putting spurs to my lame red Afghan stallion rode along the front of the battalion, while my whole cortege together with Mirza disappeared like chaff before the wind, their horses taking fright and rushing off with the riders into the town and away from the thundering drums and noisy horns. Round about on the market was spread my baggage, boxes and sacks, as the pack-horses had also taken to their heels. — By the way, it must be remarked that the Asiatic rider is never prepared for his horse taking fright, as he always rides with very short stirrups, so that his knees are almost as high as the upper edge of the saddle; on the horse making only a short sudden side-leap, he will in

most cases he thrown. Even the born riders, the Kirghiz, are not accustomed to ride at a very rapid pace. Thus, one day in High Pamir I rode a race with a troup of Kirghiz for the fun of the thing, but we had not gone one kilometre before most of them had fallen off. But they can stand riding at a quick walk or a canter from morning till night day after day, and they get an in-

Russian frontier guard and custom-house officers at Kalai-Khumb.
(A small force left at the disposal of the Beg.)

credible lot out of their horses. — While my companions collected beasts of burden and baggage I paid my respects to the officers and the old Beg who had come to receive us, and the procession set out headed by a master of ceremonies who took us through the castle of the Beg and into his garden where a beautiful large Bokharan tent, lined with flowered silk, was put up for me. The usual meal of welcome was laid on a long table outside the tent and some native servants waited on me. According to use and wont all the Kalai Khumb men disappeared, leaving the guest alone, the colonel not until he had asked me to be present at the drill of the battalion the following morning at 6 o'clock.

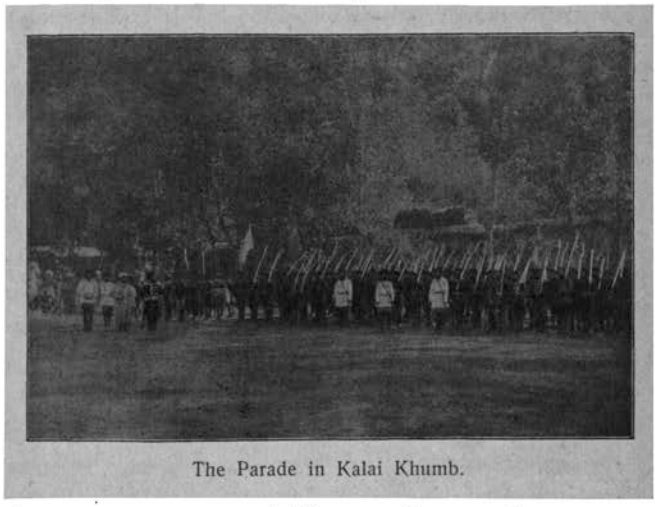
In the afternoon I called upon the Beg who lived in a large old-fashioned fortress with high walls, towers with loop-hôles and machicolations of much the same kind as the castle in Kalai Vamar. It was very solidly built of stone and beams and clay. The inner yard was divided into two parts separated by a low wall, and in the one was the Beg, whose wives had their own, separate rooms for themselves and the children in a few small houses adjacent to the wall of partition. In the four wings there were many large rooms with mats of durra-straw and carpets on the floors, some of the doors and the many wooden shutters were decorated with carvings in Persian style and some rooms, according to the custom of Bokhara, with stucco-work and many niches.

I made the necessary appointment with the old sulky looking Beg as to horses for the next province, Karategin, which I was now to traverse and presented him with a watch in return for which he gave each of my Sarts from Turkestan a many coloured caftan In the afternoon I procured some necessaries in the small bazar, and from the Russian surgeon who was appointed at the custom-house I bought some Russian tobacco, matches, tea and coffee. Hitherto we had employed tinder and burning-glass for striking fire. Matches are not necessary in regions where there is always a beaming sun; one could always get fire by means of a telescope glass, but tinder is indispensable, never fails in snow-storms or rain, whereas matches when not in hermetically sealed tin-boxes are easily spoiled during the frequent river crossings. I had had such tin-boxes on my journey out but they had long ago run short.

Early in the morning the next day my Sarts, Mirza and I put on our best clothes and made our appearance on the market at the time appointed; here the battalion had already been drawn up under the command of the colonel. The 400 men were dressed in a sort of Russian uniform with small fur-caps and armed with old Russian muzzle-loaders, all of the same kind. After the usual honours with appertinent march of honour the colonel and I sat down on a wooden carpeted board, lighted a water-pipe, and now the drill began. The colonel made the battalion perform the most complicated evolutions, all by means of trumpet signals. The whole thing was done with irreproachable precision, the Bokharan soldiers being expert at nothing else, indeed; they know next to nothing of service in the field and shooting which they ought to, and when I asked leave of the colonel to make some of the soldiers shoot at a mark, he pleaded his having very little powder and not liking to

diminish his supply. It was evident, however, later on that there was enough powder for firing no end of salutes while the colonel, his officers and I had a meal in his house.

After the parade we went up to the colonel's house headed by a master of ceremonies; a large meal consisting of meat, soup, pillau, sweetmeats, bread and fruit was laid in a large, carpeted room facing a magnificent and well tilled garden; as for fruit it would have been difficult to find an equally luxurious table. For Kalai Khumb is a perfect hot-house; horticulture is pursued everywhere on a large scale both in the bottom of the valley and up the mountain slope. In the garden of the Beg as well as in that of the colonel the branches bent under the weight of large blue grapes, peaches, apricots, figs, almonds, pistachios, cherries, plums, apples and pears. The colonel, an intelligent and kind old Usbeg, proved to be a great horticulturist, himself grafting and oculating. You could not see a garden in a better order than his with its many walks, flower-beds, avenues, vegetable garden and groups of roses.



The Parade in Kalai Khumb.

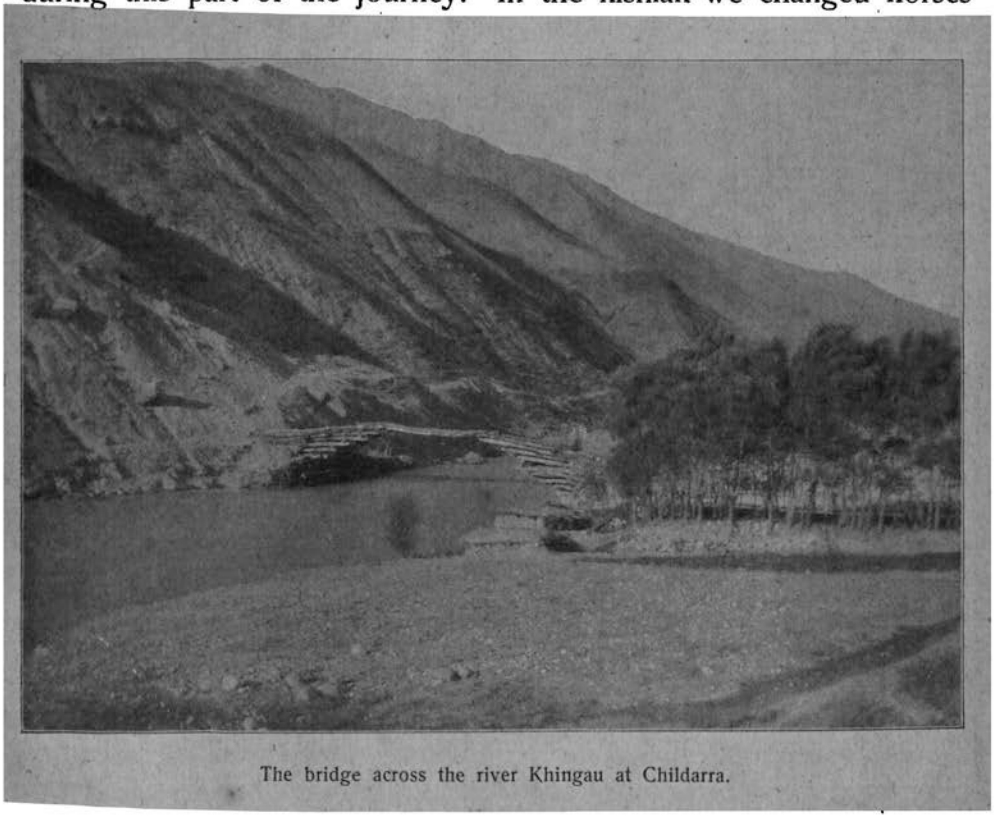
Kalai Khumb is situated in a wide valley near the spot where the affluent Khumbau or Khumbai runs into the Pandsh. It is the main town of Darvas and is said to have been founded by Alexander the Great; others say Salomon, but Salomon is only a reflection of king Dshemshid, the representative of a golden age. In the Avesta he is called Jima, and with him we have reached the oldest form of the myths. The site of the town is splendid. The river Pandsh hemmed in between high and steep mountains offers an imposing sight, it is deep and rapid, 100—145 metres broad, and where it widens west of the town it is filled with sandy islands covered with thorny copse. On account of its rapid course it never freezes here in winter as it does higher up; here it only carries drifting ice along with it. The Afghan bank seems narrow and poor, a few

kishlaks are seen at the foot of the steep mountains. The town is traversed by straight and broad avenues shaded by enormous platanes and willows. The Beg, now subject king and vassal of the Emir of Bokhara, was formerly the independent king of Darvas.

The evening before our departure on the 14th of September we paid the Beg a farewell visit, and early in the morning on our marching off from his beautiful garden, both he and his many officials were assembled in the market place to say good-bye. The colonel had again drawn up his whole battalion to do the honours. When we had passed the front, he swung out into sections, put himself at the head of the force and accompanied us some kilometres up the mountain road with colours flying, drums beating and trumpets sounding. Only on the path becoming too narrow to march upon did he take leave and return to the town. I could not expect a more solemn reception and send off in the intricate Pamir.

But now all that was over, and in great heat we dozed in the saddle up and up the zigzag path due northward along the river Khumbai. The valley is narrow with many lateral ravines which give room for several small kishlaks of a rather poor appearance, and outside these cultivated spots the vegetation is thorny, poor and parched by the sun. At the last kishlak, Hishun, on the Khumbai, Mirza wanting to show his authority on the territory of Bokhara ordered a meal at an Aksakal. The road, nowhere offering special obstacles, now turns off from the main river along a small mountain brook north-westward to the pass of Sagrydasht which proved to be very easily accessible. It crosses the mountains of Darvas without forming any deep cut into the mountains, it is a broad flattened ridge flanked by heights rising only 6—900 metres above the pass itself which is about 3000 m. high. The view from the pass is very picturesque. In the north are seen the white jagged mountains in Karategin, in the east the giantlike risings in the source district of the rivers Muksu, Khingau and Vandsh (the mountains of Periokhtau and Darvas). On the south side yawns the terrible ravine of Murkhan through which one descends to the Khumbai roaring among lime-stones and slates. The broad pass itself is characterized by swampy, green, grass-covered meadows. On these grazed large herds of camels, horses and cows mainly belonging to the Beg in Kalai Khumb. In a small kishlak beside a mountain brooklet running northward from the pass down the mountains of Darvas to the Khingau we made our night quarters

with some poor Tadjiks. I always slept in my tent being so accustomed to fresh air that I could not sleep in the natives' rather uninviting clay-houses, whereas Mirza, used to the Bokharan atmosphere, sought the houses whereever he could. Like all people from Bokhara he was an early riser and acted as a punctual alarm-clock during this part of the journey. In the kishlak we changed horses



The bridge across the river Khingau at Childarra.

as arranged by the Beg in Kalai Khumb, and the next day we descended the north slope of the mountains of Darvas from Sagrydasht. First some kilometres rather steeply downward past a few small kishlaks, then again up a smaller pass called Kutal (Pass) Tevildarra. Between these two passes there is not a single tree, so to speak, but the ground is arable and cultivated, and corn is grown over the whole territory high up on the mountain sides; mostly oats and barley. Down from the pass of Tevildarra the way follows an often steep and very stony path, and here the mountain slope is covered by woods, somewhat thin, indeed, of juniper, birch and some bushes for underwood.

Marmots are found in great quantities, we saw at a short distance some specimens of the long-haired white panther with the black spots and the very long tail, and the air and the mountain slopes were, positively, filled with eagles and vultures. The former were exceedingly large; moving slowly up the slopes they looked like men bent forwards. Lots of small falcons, crows, pigeons and small birds were flying about, and in the juniper groves the mountain fowl cackled all round us; there are a good many bears, but we did not see them. The weather, not thought much of in Pamir owing to the constant sunshine only alternating with snowstorms in the higher regions (from about 4000 metres upwards), suddenly began to change in Sagrydasht. The air which in Pamir is dry as a bone, became much moister, and the cumulus clouds drew together as in Denmark in the summer. The woods owe their existence to this moisture, on the whole greater in the provinces round the river Surkhab in Karategin and the Khingau than farther south; for trees cannot thrive on a large scale on the southern slopes of the mountains of Darvas which are baked through by the sun. Thus the latter form a climatic border and a wood border contingent upon this. During the descent we had a wide and magnificent outlook across the undulating wood-covered territory around Tevildarra relieved by many lateral valleys, across a large part of the beautiful wood-covered valley of the Khingau and across glacier-clad high crests in Peter the Great's mountains due north. The Khingau has its beginning in the highest regions in Pamir, the mountains of Periokhtau and Darvas; it has a length of about 230 kilometres, and is said to be surrounded by woods on its upper course which is in the possession of a native Tadjik prince in the village of Ishtiun about 40 kilometres east of Tevildarra.

Early in the afternoon we arrived at Tevildarra, a small town with some 100 inhabitants, whose flat-roofed clay-houses shaded by enormously high narrow-leaved willows hanging with their leaves like weeping willows, were situated on a quite even plain near the Khingau. The river itself is not seen from here, but the rushing sound announces its neighbourhood. Mirza ordered quarters at the subject Beg, a Karaulbegi (lower official), who lived in the castle of the former princes of Tevildarra, a large quadrate edifice with four square corner-towers. As long as we were in the territory of Bokhara, I was at my ease, an excellent Tadjik Djigit, Said Maksim, whom I had hired in Roshan, taking care of the caravan together with Hamrakul and the other servants, and Mirza played the part

of a quartermaster-sergeant. The large carpeted rooms of the fortress along which there were two-storied balconies looked very inviting, we took up our quarters there, and the Beg who proved to be a very hospitable man entertained us as well as it was possible for him to do.

Many things in the castle reminded one of the splendour of times past, thus several large rooms were decorated with beautifully painted

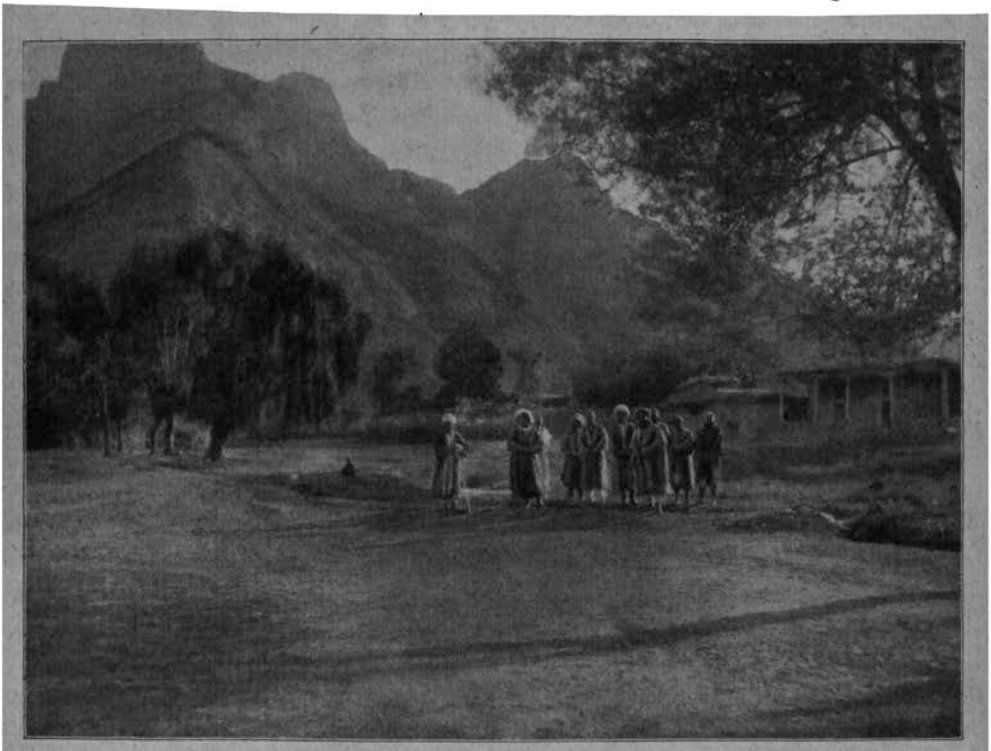
Part of the Khingau-valley.

and gilt stucco-work, with painted wooden ceilings, and many doors and gates were carved in old Persian style. Part of it was in a fairly good condition, but still more was in a ruinous state for good reasons, according to the Beg: "How am I to get money to keep this large complex in repair", and knowing beforehand something of the way in which the Bokharan government pays its officials, I must admit that he was right. The Beg told us that the town had but 80 men (the women he did not take into account), and that the inhabitants lived principally by agriculture, whereas cattle-rearing played a less prominent part. I saw, however, large herds of small cows, goats and excellent large sheep. But horses there were practically none; there were good donkeys. The

inhabitants had a pretty large income from hunting Kiyik and Ovis poli, bears, which according to the Beg were found in large quantities, mountain panthers, wolves and much small game. Skins were, indeed, hanging to be dried all round the houses and the Beg presented me with some beautiful yellow tanned Kiyik skins and promised me two live bears on my return.

Having the next morning reloaded our baggage on a few horses and many donkeys we crossed the Khingau and followed its northern bank to Childarra. There was a bridge across the Khingau near Childarra, here the river is some 50 metres broad and carries much, rather quiet and dirty water, but the bridge was rickety and fragile, not able to bear a great weight. Only the parts near the bridge-heads, formed by alternate layers of trunks of trees and heavy slate-stones, were about 1 metre broad; the middle piéce consisted of two rather thin, rocking trunks of trees on which were laid some flat slate-stones. Crawling on all fours we carried the baggage across, the animals were led unloaded and by long ropes and, strange to tell, nobody fell into the water. Having reached the northern bank safe and sound I exchanged horses with the Beg of Tevildarra and on paying 50 Bokharan Tengi into the bargain (10 rubles), I now got a good strong riding horse instead of mine which was done up. The march was but short that day and the road was good everywhere. The river valley is very broad and charming and the slopes covered with wood. Now and then the river divides into several arms and receives many tributaries from the north through clefted lateral valleys. By degrees Mirza and I had become familiar and travelling where eyes and hands were not fully occupied by perilous bridle-paths and the bridles of the horses, we were always near or beside each other, and then Mirza told me about Bokhara and habits and customs of his countrymen, and in return I gave him a slight glimpse of Europe. Having, however, before the appearance of Mirza always spoken to Hamrakul and asked advice of him, the latter became envious, and one day he let me know, half weeping, half angry that now he had become superfluous. I had then to satisfy the two rivals, both of them very necessary and trusty companions. To Hamrakul the way often seemed long ever since we had left Shugnan. Every day he asked, when we had crossed some pass or other, if we were not now in the Alai steppe which he knew, and on the whole he had no idea where we were or went to, but trusted that we should end in the town of Osh in Turkestan where he was aware

that I had left my baggage. I tried several times to give him an idea of the maps, but this proved to be impossible. Mirza, on the other hand, soon understood how to make use of the maps, and, having studied them with me a few times, he was able to find out rivers, mountains and towns although he had not seen or heard of a map before.



The kishlak of Childarra.

In the afternoon we reached Childarra having passed one kishlak and a few ailâks. It is a town of quite the same size and appearance as Tevildarra and with a fortress which seemed to have been built in the very same form as the castle of Tevildarra. The rich growth of trees in this region appeared from the fact that nearly all houses were furnished with wooden balconies and verandas and decorated with artificial lattice-work; likewise they were prodigal of wooden garden-fences. Hitherto I have not mentioned mosques or houses of prayer, because there are no mosques in the regions we have passed, and very few houses of prayer; only in

the districts from Kalai Khumb northward through Karategin. All Tadjiks in Bokhara are Sunnites, in name, at any rate, by order of the government of Bokhara, but many are in their hearts Shiites, because the provinces were formerly under Afghanistan which in times past embraced the Shiitic form of Islam or Sufism. I dare say that religion does not play any prominent part with the inhabitants, who are rarely seen performing the daily prayers as in Turkestan; the lower classes had no religion whatever, and the majority lived on old superstitions and remnants of the doctrine of Zoroaster intermixed with fragments of Islam into a terrible balderdash. When a man was now and then seen praying, it was always in the garden or on the flat roof. The houses of prayer in Darvas as well as in Karategin are very primitive; only a small clay-house where one side is quite open, and where roofs of branches and clay are supported by unhewn trunks of trees. As a rule they could only contain half a score of people. They are called mashit and are of the same type as their larger and prettier fellows in the villages of Turkestan. During our stay in Childarra some Mussulmen would now and then meet to pray on their caftans (ton) in the mashit. From this alone it cannot be inferred, however, that they are not zealous Mahomedans nevertheless; they may be so without entering a mosque or a house of prayer; for according to Islam the prayer is equally good whether performed in a mosque or in the field. But there is no doubt that Sunnism will make steady progress also in these regions of Asia, and at this moment the situation differs no doubt very much from what it was about ten years ago when I left these mountains and valleys where the Bokhara mullahs propagate their doctrine zealously.

On the 17th of September we left the old castle and its garden with the gigantic narrow-leaved willows, very like weeping willows, and went due north across the western end of Peter the Great's mountains. We rode along a small river running down to Childarra. Seen from this town the mountains are not very imposing. On all sides of the valley of the Khingau they have the character of low ridges with woods. The landscape is very beautiful and smiling with many idyllic lateral valleys. The rising is, indeed, steady over some kilometres, but it is not long before the ascent becomes terribly dizzy. For some time it follows idyllic paths among juniper and maple, then in zigzag up a narrow ridge where there

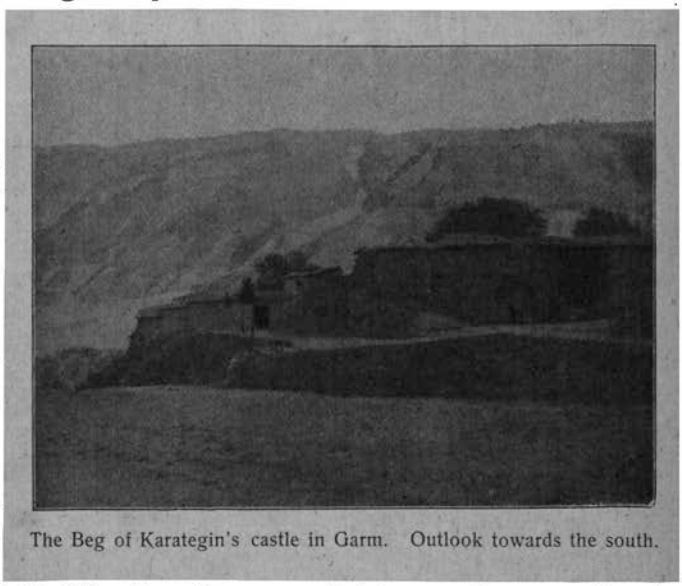
is only room for one four-legged animal, and on both sides yawn precipices covered with juniper. With insane rashness and relying on our good horses and our own horsemanship after such a long precedent training, Hamrakul and I rode up the path to the top of the pass called Kamtshirak where there was a plateau about $1^1/_2$ km. broad; but it was long before the cautious Mirza got up to us leading his horse by the bridle. We had to make a long halt until our companions arrived with the baggage which had been reloaded on the way and was carried by the donkey-drivers. The pass resembles very much Sagrydasht, being gently undulating and mostly covered with grass; here and there occurs a bit of low copse and thicket. Large herds of mares and cows belonging to the Beg in Karategin, which lies below in the north, grazed up here watched by Tadjiks who had taken quarters in the usual small ailâks. For when the grass has run short in summer on the lower course of the small tributaries, the water which is still to be found in the higher valleys, nourishes the grass until the snow begins to fall. From the pass and its northern slope there is a wide view to the valley of the river Surkhab in Karategin, to the mountains in Karategin and the Turkestan chain, here and there snow-covered; together with the Alai chain it shuts up the wild mountains of Pamir towards the north. One kishlak beside the other, all with large shady gardens, at some distance resembling small woods, are seen on the whole northern slope of the pass and as far down in Karategin as one's eye reaches. The Karateginians diligently cultivate the soil right up to the top of the passes, broad roads wind like yellowish white serpents on the mountain slopes from village to village. The roads looked as if they had been laid out artificially, but they simply owed their existence to a special sort of carriages employed by the Karateginians. They are made like common Danish peasant sledges, and on the top they are furnished with a large osier-basket in which the corn is transported down over the mountains by a team of two cows whose harness consisted of osier-bands and woollen ropes. The Karateginians were harvesting at this time, and round about we saw these sledges being drawn up and down the mountain roads, often quite slippery and nearly impossible to ride on where the descent was steep. Most of the way we had therefore to proceed on foot. During the latter part of the descent along a small river which meets the Surkhab just west of Garm, the kishlaks lie very close, the soil is everywhere cultivated and gardens are seen at

each house. But there are no woods. Late in the afternoon we crossed the Surkhab west of Garm (or Harm) and entered this town situated on the northern bank of the Surkhab at a height of 1402 metres. Across the Surkhab was a comparatively good and broad bridge even furnished with a rampart of plaited osiers. The Surkhab is an Iranian (Persian) word meaning red water; higher up towards the Alai steppe it is called Kizil-su, a Turkish word of the same meaning.

An ordinance had already announced our arrival to the Beg in Karategin who lives in Garm; formerly he was the independent king of his province, but now the vassal of the Emir of Bokhara; his dependence consists only in his paying a yearly tribute to the Emir; apart from this he practically governs Karategin as he likes. At the outskirt of the town, whose houses and garden-walls were overgrown with vines, a tall stately deputy from the Beg appeared to assign us a place of encampment in a garden where a meal was ready on a wooden table. Mirza was not content with the meal, apparently very scarce, and having convinced himself that it did not become the guests of the Emir of Bokhara to put up with such a thing, he caught hold of the corners of the many coloured cloth and threw the whole service after the deputy of the Beg, and asked him to let the Beg know that he had as soon as possible to bring another and better ziyafat (festival entertainment). The deputy looked very disconcerted; mounting in a hurry he rode into the castle of the Beg and after an incredibly short time servants brought dishes full of meat, fruit, soup, sweetmeats, no less than half a score of loaves of white sugar, tobacco, water-pipes and heaven knows what, altogether enough to feed at least 50 hungry men. As usual we hoisted the Danish colours on my tent, and as only Russian generals on such journeys decorate their tent in this way, it was very soon rumoured in the town that a faranghi genderal (foreign general) had arrived, and the inhabitants drew together round the garden where we were encamped to take a view of us. Nearly all of them, also small boys and old men, went about with small jerfalcons on their hands. Several of them showed me their art in making their very small, but very agile and pretty falcons catch some of the small birds in the trees, and they did this with great precision. Having announced my visit to the Beg or King of Karategin I went to sleep early after the long march which had lasted 11 hours almost uninterruptedly, and

the next forenoon I mounted and rode together with Mirza and a proper attendance to the fortress of the Beg near the river Surkhab.

The castle consisting of a widely distributed complex of higher and lower flat-roofed clay-houses surrounded by high walls with low square towers and bastions looked very ruinous from without, but on entering the yard we saw that much here was in good condition and rather imposing. We passed a long archway, an open court-yard and many large carpeted rooms whose wall ornaments consisted of all possible kinds of weapons: lances, scimitars, short spears, forked matchlocks, guns with flintlocks, modern guns and rifles, and finally we entered a large carpeted room whose walls were decorated with painted stucco-work as in the houses of people of quality in Bokhara, and here the Beg was enthroned on a wooden tabouret surrounded by half a score of Tadjiks kneeling round him on the carpets of the floor. The grey-bearded man was dressed in a splendid silk caftan with appliqué flowers and his halberdiers were all in bright caftans of red fancy-cloth. He received us very kindly and when the usual long welcomes had been pronounced, on his part in the Tadjik language and on mine in Usbegish, Mirza who knew both languages being interpreter, we discussed how I was to get horses through Karategin as far as his authority reached, and he readily promised to arrange all through his Aksakals from town to town in his province. This important question having been settled, the conversation assumed a more general character, principally turning upon his and my person, my travels etc. and after each question neither of us forgot to wish for the blessings of Allah and for a long life for both of us. During the conversation he complained of gout in his legs,



The Beg of Karategin's castle in Garm. Outlook towards the south.

and I promised to prepare some spirits of camphor from my medicine chest, and this promise was, of course, taken in good part.

The Beg's sitting room was remarkable for a charming view through the many open wooden shutters on the quiet and broad course of the Surkhab below the walls. It was decorated with a very beautifully carved and painted wooden ceiling, and facing the court was a high and long clay-platform covered by a half-roof. Upon this opened many carved and painted doors and above these draw-windows of cast plaster (latticed work). The Beg was a real type of an old Oriental prince as known from the fairy-tales; in the capacity of vassal of Bokhara he had the rank of Paravanatshi, one of the highest titles in Bokhara. Before I left him, he invited me to a feast the following day, and finally I photographed him and his second in command.

The next day I made my appearance at the meal; only he and I sat on wooden tabourets at an immensely long table laid in the above mentioned way. All his other officials present and my companions sat on the floor. Now and then the Beg handed a cake, a bunch of grapes, a slice of meat or a small cup of soup to one of them and, believing that this was the way to behave here, I also began to distribute food to my companions; but then the Beg laughingly said that his servants would help my subordinates to something by and by. After the meal during which we expressed the most perplexing wishes for each other and squeezed each other's hands after nearly each mouthful, we took a view of his large well irrigated garden, and before I went away I had to show him how to rub his legs with my spirits of camphor. At the leave-taking he presented me with a large sack full of white sugar, sweetmeats, raisins, bread, nuts and so on for my journey farther east.

Karategin which we have entered now is, as above recorded, a province of Bokhara. It stretches along the Surkhab from the knot of mountains of Karamuk in the east to the affluent of Âb-i-Garm about 60 kilometres south-west of Garm in the west. It is bordered by the Hissar mountains, the Turkestan range and parts of Alai in the north and in the south by the mountains of Peter the Great. The eastern part is inhabited by Karakirghiz, the western by Tadjiks and farthest west are some Usbegs. The number of towns and villages is said to be some 400, and the main town is Garm with 300 houses and about 1500 inhabitants. The aggregate amount of inhabitants is said to be 382,000, which is certainly

somewhat overrated, about 350,000 will no doubt be nearer the right number, but a census has never been taken. The valley of the Surkhab between the affluents Âb-i-Zanku and Âb-i-Kabud is the most densely populated, and of the lateral valleys that of the Âb-i-yasman. The Tadjiks are principally engaged in agriculture and horticulture. In the gardens grow nut, walnut, apple, pear, quince, peach, apricot, mulberry, pistachio-trees and many other plants. There are two kinds of fields on the slopes, those fertilized by rain and those artificially watered; the latter method is very troublesome. In the fields watered by the rain wheat and barley are grown and on the stretches artificially irrigated millet, lucerne, hemp, tobacco, melons, turnips and cabbage; in a few places also durra and cotton. Cattle-raising only plays a slight part in Karategin except among the Kirghiz in the east who have large herds of cows, sheep, goats, horses and camels.

The Beg at Garm.
Door in the background (carved and painted).

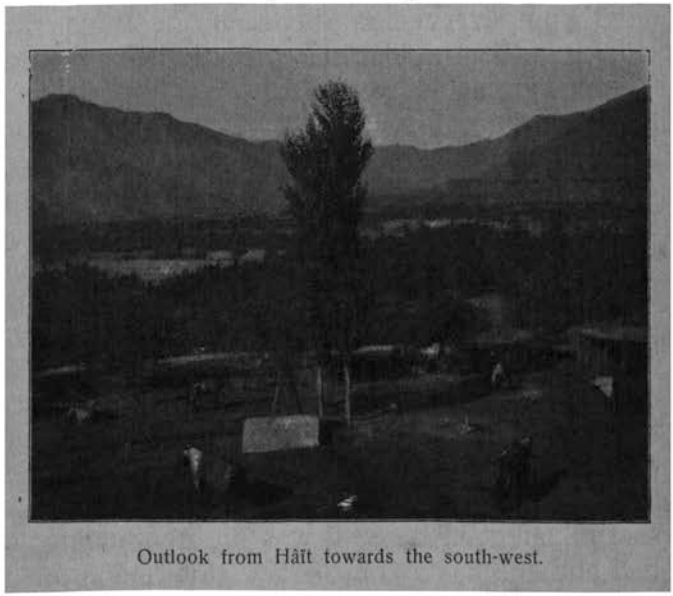
The kishlaks are situated mainly in the widenings of the valleys on the Surkhab and a smaller number along the affluents. Communication from bank to bank is very difficult, excepting in the few places where there are bridges; this is owing to the rapid current; it is often very dangerous to cross the river on inflated skins, and the frequent changes in its course throw new difficulties into the way of the inhabitants. The passage along the southern bank is very toilsome; here it follows narrow terraces in the rocks or fragile galleries, but generally the most difficult ra-

vines are avoided by climbing higher up in the mountains. We followed the northern bank on saying good-bye to Garm. Our caravan had been supplied with good pack-horses, and the road was irreproachable. Everywhere kishlak by kishlak, and the territory was well cultivated. The promontories south and north, principally the former, stood out as even slopes with innumerable furrows produced by local showers or sudden thaw in the spring. On journeying eastward the mountains in the north become steeper and steeper, a few cross ridges push forward almost down to the Surkhab, so that now and then we were again obliged to crawl for a bit, but everywhere between the ridges the valleys are covered with numbers of kishlaks with fertile surroundings.

As long as we were in the neighbourhood of the Beg's residence his orders for supplying us with beasts of burden and selling us victuals were fairly well obeyed, and during our short halts in the villages one of the elders of the town came up with a dish of fruit or some melons here and there. The inhabitants are dressed in the usual white woollen caftans, but from a motley caftan and turban here and there one guesses the neighbourhood of Turkestan in the north. The answers of the inhabitants when asked about Turkestan, show that the chain which separates them from this region does not invite to frequent travels northward, for the majority have never been outside Karategin; only some Aksakal or merchant speaks as if he knows Kokand well, the town most frequented by them. In times past and up to 30 years ago Kokand was the seat of mighty Khans; it was the dominating town in East Turkestan, had and still has a considerable domestic industry, especially of cotton, silk and metal goods, and it has retained its fame as a commercial and industrial town here south, but it has a keen rival in the more eastern Margelan. Wooden shoes like those used in Jutland are much worn in Karategin and are a change from the untanned brown short leather boots otherwise used.

The number of houses of prayer steadily went on increasing the farther east we got, and the tombs were kept in better condition and nearly all adorned with a small flag of coloured cloth on a staff; as in the regions traversed farther south they consisted of a rectangular heap of earth generally surrounded by a stone-setting, and had sometimes several stories. This flag, called Alam, means in Turkestan that the deceased person has been declared to be a sort of saint from which it must be inferred, either, that there are many good people or else, and more probably, that the ritual

is not maintained so precisely as in Bokhara. Unfortunately I had in Garm been stung by a poisonous insect, no doubt a scorpion, and seeing that the mysterious sting which soon after formed a burning wound was accompained by fever, I opened it and cleansed it with a strong solution of carbolic acid. After some days my arm swelled to nearly double its normal size up to the shoulder, so that I had to carry it in a sling for several days, and as difficult marches were now before us, this accident was very inconvenient; often it was very difficult for me to remain in the saddle owing to the fever and the pain in my arm.



Outlook from Hâît towards the south-west.

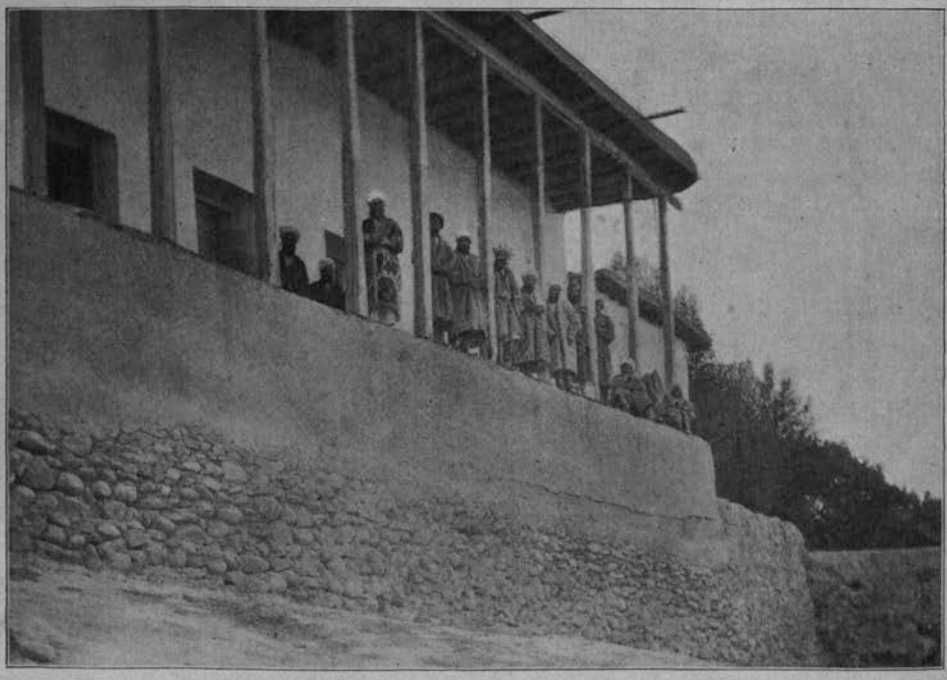
In the afternoon we pitched a camp in the kishlak of Nemets, a very fertile and beautiful oasis and while Mirza performed his prayer, which he, in contrast to my other companions, always did in the one mashit, I put up my tent in the other, having beforehand asked the Aksakal of the town whether such a thing were permissible. The small mashits were easily cleansed from scorpions and spiders, there was fresh air and also some shelter against the nightwind and cold which was now and then perceptible at sunset. On our departure from Nemets we left the bank, here almost impassable and crossed a small, but steep pass where the natives had made a good bridle-path. In the pass from which there is a charming view across the glaciers in the mountains of Peter the Great, there were a lot of wild fowl eagerly chased by the Karateginians with their falcons. Below the pass the road again follows the river which divides into many arms among bush-clad islands. The colour of the water is red owing to dissolved pieces of rock, but after some time these particles sink to the bottom, and then the water can be drunk. On the bank here as in and on the banks of the Kizil-su in the Alai steppe, there are

many round, red and green stones of the size of swans' eggs, all spotted with white veins. We passed many kishlaks surrounded by fertile fields and gardens full of apples, pears and plums. In the afternoon we reached the river Âb-i-Kabud across which we waded, for there was no bridge. The river is here about 80 metres broad, there is much water and a strong current. September is, indeed, one of the few months in which it can be passed on horseback. The water reached the belly of the horse, and many pebbles covered the bottom of the river; we had therefore to ride cautiously, for the stumbling of the horse could easily imperil our lives. At high water it is crossed on inflated skins. The Beg or subject Beg in the town of Hâït on the eastern bank of the Âb-i-Kabud had been informed of our arrival and had appeared on the western bank after having examined the ford with his servants. We now entered his castle built in the same style as the above mentioned castles of Pamir, but much smaller.

The Âb-i-Kabud is one of the largest tributaries to the Surkhab in Karategin; it is difficult to pass along its two extreme source rivers east and west, but their valleys are very well peopled. But in respect to population no valley is equal to that of the Âb-i-yasman which is said to be very fertile and well cultivated everywhere, the range of kishlaks is nearly continuous from its outlet, and in the higher mountains there are many villages in the mountain pastures, here called yailaak.

From the Beg of Hâït, the subordinate of the Beg in Garm we had obtained perfectly charming quarters; not only did the Beg do as much as possible to entertain and treat us in his richly carpeted rooms and verandas, but the valley is very like that of Kalai Vandsh in Darvas except that the mountains are less rugged. From a balcony in the castle facing the Âb-i Kabud there is a splendid view towards the north-east, north, west and south-west to wide valleys round the three main rivers which meet here; and the valleys are filled with kishlaks whose trellised balconies peeped forth among groves of gigantic green trees. As far as the eye reaches northward into the mountain clefts, there are woods, and among the green trees the rushing rivers wind; here and there they form waterfalls whose white foam shines out in the bright sun by which our stay was favoured. North-east towards Karakush-khanâh (The Eagle's Nest) white with „firn" snow, and in the mountains of Peter the Great whose slopes seemed to rise gently from the

Surkhab the broad plains of the greenish blue glaciers shed a magic light across the brownish black precipices. According to goniometry the height of them is here 6100 metres. We stayed on the balcony both day and night and the moonlit nights were not the less charming. In the evening our host came out on the balcony with his Aksakals and 4 fiddlers, the latter to divert



The Beg's castle at Hâît.

us with music from their one metre long guitars; these are most like a mandolin with an enormously long neck and are played in the same way. The music was not so bad, but the singing, like that of the Sarts in Turkestan, reminded one most of the howling and wailing of a dog and was decidedly unpleasing for European ears. But the scene on the balcony, a group of motley dressed Mussulmans with white turbans sitting on carpets, servants going about with water-pipes, other servants chasing away the mosquitoes with long handled fans or bringing fruits and sweetmeats, the four fiddlers, the whole scenery lit up by the beams of the full moon and then the view across the charming valleys; every-

body may no doubt realize, that this must seem a fairy-tale even to a sober European. Not before far into the night was I able to to tear myself from this charming scene.

Hâït is a very large village, probably some 3000 inhabitants. It carries on a considerable trade with the neighbourhood and with Kokand and has a bazar where according to the Beg the trade is most flourishing in winter.

Although I was very desirous of making a longer stay here and had a great dislike to spring into the saddle with my bad arm and the fever which was apparently untouched by large doses of quinine and castor-oil, we were obliged to leave both from pecuniary considerations and owing to the passage across the Alai mountains. East of Hâït we still pass some Tadjik villages, but soon the residences become scarcer and scarcer. The valley narrows to some 3 km., and half-way between Hâït and Zanku our old acquaintances, the Karakirghiz, begin to appear in small auls as those collections of small clay-houses are called by the Kirghiz where they live in winter, when owing to the snow the nomadic life ceases in the Alai steppe and in the mountain ravines north and south of the valley of the Surkhab. South of the river we could distinguish several kishlaks, and here the ground seemed cultivated high up in the mountains. In a small Kirghiz aul we had our breakfast, consisting of boiled mutton and bread in the form of large pancakes, which a Kirghiz Aksakal placed before us in large wooden dishes, which did not look very clean; but we were so wont to take pot-luck, that we did not allow our appetites to be influenced to any considerable degree by such a thing. The Kirghiz in Karategin with whom we had to do now almost as far as Osh are remarkable beyond all other Kirghiz for their phenomenal ugliness which is saying something. All of them are badly made, have clumsy coarse limbs, a slouching gait owing to their always being on horseback, they stoop, have large projecting ears, the lower teeth jut out beyond the upper ones, they look grief-worn, have dark faces and thin beards. Generally they were unobliging and inhospitable, and fighting among themselves was of every day occurrence. We had our last night quarters among Tadjiks in the village of Zanku just west of the river Âb-i-Zanku; but the fertile orchards in which we had for some time pitched our camp were now left behind us. In Zanku were only a few stunted apricot and mulberry-trees and on the river bank small willows and tamarisks which showed the neighbourhood of the treeless limit. I pitched

my tent in a mashit, but the Mussulmans who came to pray did not in the least mind my teapots, photographic implements and topographic instruments. On my journey here I could easily have lost my life, for riding on a six inch path along a deep precipice, my horse shied at a camel who suddenly broke forth from a thicket. So quickly that I hardly realize it, I cleared myself from stirrups and saddle and remained on the path while the horse disappeared in the abyss. In the night which was dreadfully cold, it rained a little, and during the shower we had a rather vehement earth-quake, rocking me so violently on my couch that I felt a pain in my back, but fortunately I awoke at the same time, so that I got out of the mashit before the clay and beams of the roof fell on my head. For the next day we could only get camels for beasts of burden which was the more unfortunate as we had to cross some small, but very steep passes on the way further along the Surkhab, now called Kizil-su, and the camels are bad beasts of burden in difficult mountain districts; moreover, the rain had made the clayey slopes so slippery that each moment the animals fell down with the baggage and refused to advance as stubbornly as it is only possible for a camel to do. — Across the broad rapid Âb-i-Zanku all of us rode on camels which owing to their height cleared the ford better than the horses which we dragged behind us. The Âb-i-Zanku is by the Kirghiz called Koksu (The Blue or Green Water); it has its beginning from two main sources, the Tamdykul and the Lâisu (The Clayey or Dirty Water). After the union of these two rivers it is called Âb-i-Zanku and runs through a nearly impassable cleft in the mountains of Karategin; on its lower course there are distinct terraces on the bank and at high water it can only be crossed on gupsars. But higher up there are several fords. From Zanku there is a difficult pass road along the Lâisu to Turkestan and a mountain path across the pass of Kulak (Ear) to the sources of the river Muksu where some tribes of Kirghiz have settled. After the poor camels by means of pitiless lashes had been driven across the two passes east of the Âb-i-Zanku where the path leaves the Kizil-su whose many arms are seen far down, I had even at eleven o'clock a. m. to give up all hope of advancing further that day and made a halt in a small kishlak some kilometres west of the outlet of the Muksu into the Kizil-su, where a small family of Tadjiks lived among the Kirghiz. After long negotiations I made the inhabitants supply pack-horses for the next day, but only to

the nearest Kirghiz aul; the Kirghiz Aksakal who accompanied us promised, however, that from the next Aksakal he should procure fresh animals and thus further on till we reached the Alai steppe. In this way we reached the kishlak of Duvanna on the 24th of September after having reloaded the baggage no less than three times. Here we traversed a poor district; few trees and bushes grow in the auls where the wind roared among the naked earthen walls of the houses. The mountains are not very imposing here, but traversed by innumerable clefts, and withered grass and a few bushes are found at even rather considerable heights. On the outlet of the Muksu the Kizil-su narrows into an arm, and here an important goldwashing is carried on by Tadjiks who are said to deliver yearly some 100,000 rubles to the Emir of Bokhara. The valley of the Muksu from which the mountains of Peter the Great rise was discovered by Kostenko. The river rises from 4 main sources meeting at a height of 3260 metres at Altyn Mazar (The Golden Shrine). Here gold is also obtained by the Kirghiz, but apart from this the district is as yet quite unknown. The road which follows the Muksu is according to the Kirghiz very difficult and impassable for beasts of burden. The bottom of the valley is even, covered with gravel and fragments of rock; the many arms of the river carry much water and on its outlet which is also divided into many arms, the main course is much broader and deeper than that of the Kizil-su itself. The water is of a dirty white colour which proves its origin from glaciers. A little above its outlet there is a bridge. At Altyn Mazar its valley is about 2 kilometres broad, but later on it becomes much narrower. The length of the Muksu from the so-called Fetshenko glacier to the Kizil-zu is according to Geiger 82 km. On the left bank of the Muksu the mountains of Peter the Great rise to an imposing majesty. The whole length of this chain is some 200 kilometres and its average breadth from the river Khingau to the Surkhab is 40 kilometres. In Duvanna where I lived in a mashit as the day before there was among the usual oblong heaps of earth above the tombs of the Kirghiz a very beautiful gumbas (Chambered Tomb or Mausoleum) above a saint's tomb. It was of clay, but well kept, had both corner towers, cupola and a saint's flag and was surrounded by a fence. Wherever the Kirghiz live in Pamir, they build many tombs of this kind from which it is to be inferred, perhaps, that they are more religious than the resident Tadjiks in Pamir. I am inclined to be-

lieve that this is also the case in the latest Islamitic times; for the Kirghiz were and are Sunnites, while the last remnants of old Avesta superstition formed the only religion of the Tadjiks. But the Kirghiz are not and never will be zealous Mahomedans, they are too soberminded and practical; worship of the forefathers which to a certain degree appears in all nations seems, however, to thrive among them; in this respect they have not escaped the influence of the East.

After much trouble with the Kirghiz we left Duvanna with fresh horses, and followed the Kizil-zu in pouring rain owing to which the clayey paths on the slopes became both difficult for the caravan and perilous for the riders; I don't remember how many times my horse fell with me. The paths were really awful, and I often thought of trying the southern bank of the Kizil-su, where there were bridges near Duvanna and the ground looked more solid, but I abandoned the plan in order not to lengthen the distance, and finally, late in the afternoon, we reached the Kirghiz aul of Kitshik Karamuk (Little Karamuk) on the river of the same name a few kilometres from its outlet, after we had passed through a narrow ravine in which grew wild apple and pear-trees. On our entry into the naked aul damaged by the wind, but rather large, about 50 Kirghiz immediately gathered round us shaking sticks and pitchforks at us amidst loud cries and asked us to leave the town instantaneously. I took no notice of their threats, but advanced with the caravan to a free place and unsaddled in a mashit leaning against a mountain wall; here we were safe from attacks from behind and could fire our guns at houses and streets. I informed the Aksakal of the town that we wanted to stay here only this night and would pay liberally for all that we needed; they need fear no harm from us, but whoever dared to enter our camp uncalled for would be shot dead. During the negotiations we all stood with our firearms loaded in the veranda of the mashit, while the Kirghiz carried on vociferous discussions for a long time, but at last they disappeared into their houses with their tridents, axes and bars at a sign from the Aksakal; but of course we did not sleep much that night, and besides the rain mixed with snow fell upon us the whole time. I have never been able to understand the conduct of the Kirghiz, but I knew them enough to be aware that they only submit to imperative language, which they do nearly always, as they are not fond of an open contest. The next day they seemed to be quieter, for the Aksakal appeared early in the morning with a

dish of meat for me, and later he supplied horses at an unreasonably high price, indeed. First I despatched the caravan with its Kirghiz guides, and then I rode through the town with Hamrakul, Said Maksim and Mirza, all with our carabins and revolvers ready. This was one of the few times I saw Hamrakul turn pale. The snow steadily drifted round us during our journeying, and soon the horses waded in two feet of snow. It was dreadfully cold, we advanced but slowly, a terrible fever tormented me, and the swelling in my left arm which was still wrapped up in carbolic water compresses, did not seem inclined to go down. We crossed a small steep pass, as we could not follow the bank of the Kizil-su, and that day we did not get further than to the river Katta Karamuk (Large Karamuk) where the Kirghiz were still nomadizing in the snow with their herds. We took up our quarters in a Kirghiz camp whose tents were pitched in a grove of willows and tamarisks. Fortunately the Aksakal and Hamrakul knew each other, having met at the fairs in Osh, and the reception here was therefore very amiable. The whole day and night I had a feverish sleep in the tent of the Aksakal and did not know much what was going on round me or what became of my baggage, but the next day Hamrakul informed me that all was ready for departure. Several glasses of warm tea stimulated me so much that I could spring into my saddle, but the fever kept on steadily, and the pain in my arm did not improve the situation. Mirza also complained of fever, but I hoped that this fever which we had brought with us from the lower valleys would disappear on our getting higher up. The snow ceased, the sun shone out, but in my half-sleeping state I only remember a continual pain in my arm for each step the horse advanced, the many arms of the Kizil-su with their reddish water, the chain in the north rising as a wall from the river and the many small rivers meeting the Kizil-su from the south after having passed a chaos of ravines filled with blocks of stone; the territory looked desolate and inhospitable. We reached the Alai steppe and now we rode among some rounded hills covered with withered yellow grass. There was nobody to be seen on the steppe, and I was very afraid that all the Kirghiz nomadizing here had moved northward. In this case we should have been obliged to leave the baggage and save ourselves across the Alai mountains and later perhaps have it sent across the pass of Tengisbai to Margelan. But fortunately we found another troup of

Kirghiz encamped in the ruins of one of the old clay-fortresses from the time of the Kokand Khans; its name was Kurgan, and it had been built by Khudayar Khan.

I really felt unable to ride any farther and made Hamrakul agree with the Kirghiz tribe to convey us from here due north across the pass of Tengisbai to the town of Margelan which was the nearest place, and if I were not able to ride the next day, a Kirghiz djigit was to ride alone to the Russian Governor and ask him to arrange for a caravan to bring us northward. My supply of money had nearly run short and all that was left was in Bokharan or Afghan coin which the Kirghiz would not receive. Once across the Alai mountains, across the pass of Taldyk, on the way towards the town of Osh, and we had nothing to fear, for here there are always Kirghiz, and the latter knew both Hamrakul and myself, so that we could easily arrange with them for payment after our arrival at Osh. But we were to be more fortunate than we expected. In the evening I washed the wound on my arm with a strong solution of carbolic acid and smeared the whole arm with boric vaseline, swallowed a good dose of quinine, and having slept wrapped in some blankets in the open air, I awoke quite well the next day, so that I dared to go on with the march in the Alai steppe further east to reach the pass of Taldyk. The Kirghiz who had supplied horses would later on come to Osh to get their money and promised to take care that we crossed Alai with their horses in case we should not happen to meet another Kirghiz family who could give us new ones. We rode and rode an endless time on the yellow steppe, but nobody was to be seen; it began to snow and soon the steppe was so like the mountains all round that only the Kirghiz guides knew where we were. We made a short halt to fill some sacks and saddle-flaps and even our pockets with dry dung, as we could not find more fuel for the passage of Alai, and after having been in the saddle almost uninterruptedly over 11 Danish miles we reached a small river, Kaska-su, streaming down from the neighbourbood of the pass of Taldyk into the Kizil-su. Here we stayed during the night in the snow, and our Kirghiz guide found another delayed Kirghiz caravan from which we got new horses. With these we passed the Alai chain in incessant snow-storms. The horses waded in snow to the belly, and some of our people always had to walk in front to find out the paths in the snow with some

tentpoles; it is little less than marvellous that nobody fell down into the precipices. It took us from the 28th of September to the 1st of October to cross Alai, whereas normally it takes but 12 hours in summer. The tents were buried in snow in the night, but with the Kirghiz as our guides, both we and they with their wives and children got over safe and sound, although Mirza believed many times that he was praying his last prayer in the snow.

2.

THE BOKHARAN LEVEL COUNTRY

STEPPE BOKHARA

RIVERS AND RIVER-BASINS

THE Serafshan, the artery of the ancient Emir residences, Samarkand and Bokhara, now disappears in the sands like the Kashka Darya; possibly, it formerly joined the Amu Darya as its tributary, judging from the direction of one of its arms north of the town of Bokhara; but as far back as our historical knowledge goes, conditions were practically the same as now, for we know from the Greek-Roman historians and geographers by whom it is given the name of Polytimetus running out into Oxiana palus which must be considered as the present group of salt-lakes of Dengis (Sea), east of the desert of Sundukly on the Amu Darya, that more than two thousands years ago it ended in the desert without reaching the Oxus.

As the Serafshan (The Gold Strewer, Saraf = Exchanger) creates such magnificent oases as Samarkand and Bokhara in the midst of barren deserts, poor steppes and naked mountains, oases, which have always been centres of culture in Mid-Asia, it is no wonder that the story of these regions is associated with the river, that the scenery of legends, traditions, myths, fairy-tales and fables is laid about such a miraculous stream, on whose banks thousands and thousands of people have found their food, rested in the shade of the huge elms and mulberry-trees, founded kingdoms, raised thrones and overthrown them.

On the lower and middle Serafshan the Iranian people had their principal seat, here lived the flower of the historically original, sedentary agricultural nations of Mid-Asia, as appears from the fact that the Macedonian invasion under Alexander the Great here met

the most stubborn resistance. In this old home of the Iranians, Sughdha, probably embracing the oases of Samarkand and Bokhara, which was called Sughudha by the Persians and was mentioned immediately after Chorasmia and Bactria in the long inscription of Darius, culture sprang up from the fertile loess soil. In Sughdha, Sogd or Sogdiana was the town of Maracanda, in the Chinese Sui-Annals called K'ang, the present Samarkand (The termination "kand" must be interpreted as town in analogy with, for instance, Tashkent (The Stone Town), and the word Samarkand is possibly an abbreviation of Asamarkand, the fortified town or camp). Sogdiana extended as far as the Yaxartes (Syr Darya) which served as a line of defence against the turbulent tribes, Scythians and Sakes. The Serafshan was called Kohik by the Persians, and its valley is extolled as a very paradise by the Arab conquerors; and it is so to a certain extent, also from a more sober point of view, its glory being considerably set off by the great contrast with the surrounding sterile deserts.

In the Avesta (Venidad, Bundehesh and Minokhired) the Airyana vaeja (The Cradle of Mankind or properly speaking The Place of Residence of the Iranians) is possibly laid at the present Kuhistan (The Mountainous Country) round Samarkand, but by this may also have been meant Ferghana or as above mentioned Pamir or the Elburs mountains on the Caspian; the latter is the more probable hypothesis. But like our own paradise the Airyana vaeja in the Avesta was no distinct country, but a fairy-land adorned by the Avesta people with all possible splendours, not destitute, however, of different plagues. Minokhired says that Ormuzd has created Airyana vaeja more pleasing than all other lands and places of residence, here people live to be 300 years old, suffering and illness do not occur, lies and frauds are unknown, men do not sigh or weep, and desire and covetousness have no power over them. Those who as I have lived for years among the present Iranians cannot wonder, however, that they were deprived of this paradise. If, as is the opinion of some authors, Datja is the name of the Avesta for the Serafshan, it is possible that the Datja must be considered as the tributary of the Serafshan, the river on whose banks the home of Porushaspa, the father of Zarathustra is said to have stood. But all these tales are myths which have had excellent homes in the secluded valleys or oases only connected by difficult mountain or desert roads; for beyond the miraculous effect produced by the Serafshan in irrigating the loess soil it has not

contributed to the growth of intercourse between the Iranians, as from time immemorial it has been unnavigable, and has hindered communication by the raging waters of its upper and partly of its middle course and by its inundations. Only above Samarkand is timber floated down into the level country from the mountains. It is but a smaller part of the river which now belongs to the Emirate of Bokhara, namely a part of its middle and lower course, and the Russians are on the point of cutting off this artery of Bokhara by the steadily increasing draw on the water supply caused by the extension and colonization of the fertile oasis of Samarkand; it is, indeed, often difficult to get sufficient water for the fields of Bokhara.

Although the Serafshan runs now almost totally outside the territory of Bokhara of to-day, being directly or indirectly under the sway of Russia, we shall here give a short description of its course. Rising in the so-called Matsha district and here called Matsha by the natives, it is, even in its very beginning, where it issues from the ice-gates of the Serafshan glaciers, an imposing river difficult of passage. From the right and the left affluents from the Rama and Yarkhitsh glacier pour their waters into its stream which has now mainly a western direction without any curves worth speaking of. The end of its upper course may be set at Pandshakent (The Five Town), the length of it being some 250 kilometres. On this stretch its whole course falls in the mountainous country of Kuhistan where its valley is inhabited and cultivated almost up to the perpetual snow. Its middle course may be said to terminate at Kermineh and has a length of about 230 kilometres. Here it flows through the oasis of Samarkand which it irrigates through numberless branches and channels as far as west of Katta Kurgan (Large Fortress) in Russian, and then Bokharan territory. At the town of Kermineh the river passes the last spurs of the mountains on its left bank, now entering the level country and beginning its lower course which up to the most easterly lake-basin at Karakul has a length of some 170 kilometres, the aggregate length of the river thus being about 650 kilometres.

Its rise in the Serafshan glaciers is according to the Russian measurements at an altitude of 2704 metres, and at Pandshakent its height above sea-level is 975 metres, which means a fall of 1729 metres or a fall of 7—8 metres in 1 kilometre. The fall of its upper course is, however, somewhat greater, at least 8 metres in 1 kilometre. Kermineh has an altitude of about 295 metres above sea-

level, the fall of its middle course thus being 680 metres or about 3 metres in 1 kilometre. On its lower course the fall steadily decreases, until the river vanishes at last in the fens.

The Serafshan receives numberless smaller tributaries from the Serafshan mountains, the Turkestan range and the Hissar chain, those from the south, the Yaghnau or Yaghnob-Fan, Maidan, Voru-Kshut and Aksu-Shink-Maghian-Darya being the principal, and on almost all affluents as well as in the main valley agriculture is conducted by means of artificial irrigation. It is, however, especially on leaving the mountains that the Serafshan calls forth a paradisic oasis, the main centre of culture of Central Asia, the oasis of Samarkand, the residence of Timur and the favourite residence of the former Bokharan Emirs where they received the oath of allegiance on the stone of Kök Tash (The Green or Blue Stone), where the climate was finer, the summer heat less oppressive than at Bokhara which is situated much lower than Samarkand, and where the sight of snow-clad mountains in the east and south was much more enticing than that afforded by the surroundings of Bokhara. Every visitor to Samarkand takes with him the memory of a very fertile, well irrigated landscape. The soil consists of loess the strata of which are here and there relieved by reddish sand; in some places the loess has a depth of about 30 metres. Through numberless river arms and canals, among which may be named the Dargam canal, the water is spread over the fields producing luxuriant grass, corn-fields and gardens. Passing from the present railway-station to the town, a distance of about 3 kilometres, one traverses shady avenues of elms, poplars and acacias. Seen from the mountains the oasis stands out like a green wood contrasting strongly with the yellowish steppe in summer. Field is beside field, garden beside garden, and the waters, which the loess gives a yellowish colour, are everywhere fringed by splendid shady trees. In the Russian part of the town the irrigation canals on each side of the avenues make elms, platanes, poplars and acacias shoot up with incredible haste so that one drives through a real wood of foliferous trees. In the fields thrive tobacco, pumpkins, melons, four sorts of wheat, barley, durra and lucerne, not to speak of rice and cotton, together with the silk culture, probably the future of Samarkand. In the native town, round the magnificent buildings of Timur, the mosques, medresses and mausolea covered with encrusted tiles, there is a luxuriant growth of huge mulberry-trees, black and white, especially the latter along roads and channels. The delicious white fruits

make the crowns look as if they were sprinkled with large spring snow-flakes, and in the gardens are all sorts of fruits: almonds, cherries, apples, pears, peaches, apricots, plums, grapes etc ; in spring and in the fruit-season the whole oasis is full of perfume.

The most fertile and most thickly populated part of the Serafshan district is the oasis of Mian-kal or Mian-kul (The Fruit Lake or Fruit Hole), formerly one of the principal Governments or Tumen of the Emirate and administrated by a Beg under the Emir. A little above where the river is crossed by the post-road from Samarkand to Tashkent, it divides into two main arms, the northerly or the main river called Ak-darya (White River), the southern Kara-darya (Black River). These two arms after separating about 20 kilometres, again meet at Chatyrshy not far from the Russian frontier, and the island which is thus formed by the Serafshan and which is about 100 kilometres long, is called Mian-kal or -kul. Loess occurs here everywhere, there is plenty of water, and owing to these two circumstances the island is very fertile. Not a bit of land is left untilled, the whole territory is traversed by channels, in the island derived totally from the Kara-Darya, those from the Ak-darya watering the territory north of the river. The considerable town of Katta-Kurgan south of the Kara-darya which still contains an Arab colony from the time of the Arab invasion, is supplied with water from a main channel, Narupai, which flows past the northern walls of Katta Kurgan and disappears in pools a little west of Siah-eddin. After the confluence of the Kara- and Ak-darya about 50 kilometres farther down on the river is the oasis of Kermineh with the capital town of the same name, the favourite winter residence of the present Emir. This oasis is irrigated by small lateral canals cut from the river. The Serafshan is here a steppe river, flowing slowly through a broad depression which the eye can trace everywhere from the railway as a reed- and rush-grown belt the northern boundary of which is formed by a range of villages surrounded by gardens, at some distance looking like so many small groves.

The Serafshan now runs on westward and south-westward, from Kermineh sending one arm towards the north-west which disappears in Shor Kul (The Salt lake) in the desert of Kizil Kum. Almost half-way between Kermineh and Bokhara the drifting sands of the desert go quite down to the northern bank of the Serafshan, but then the river again calls forth an oasis from Gish-duvan to Ak Kamysh (White Reeds), of a length of about 85 kilometres and

a breadth of about 34 kilometres, and here is Bokhara with its numerous villages, watered by the northern curve of the Serafshan and canals led across the fields from the river. Finally at Kara Kul (Black Lake) where the river makes its last vigorous effort it irrigates the oasis of Kara Kul and some small villages, and then disappears in the west in the moving sands without effecting a junction with the Amu Darya; the most extreme branch reaches Khodsha Davlet, a shorter one ends in the lake of Yalang Kul, at high water sending a smaller course down into the depressions of the desert of Sundukly, in the often mentioned territory of lakes of Dengis (Sea), now consisting of three salt-lakes one south of the other, these bear the names of Sungur Kul, Karanga Kul and Dengis; the latter is about 15 kilometres long. We shall later recur to the oasis of the town of Bokhara.

The Amu Darya from Kelif to its leaving Bokharan Territory. When the Amu Darya has issued from the hills near Kelif, its stream is no longer restricted by the walls of the mountains. Like a mighty steppe river whose waters produce no sound or noise, it flows without receiving one single tributary through deserts from which it extorts habitable oases or, to put it more exactly, it prevents forming of deserts on its banks, until finally, exhausted by the constant demands made upon its waters and the immense evaporation in summer, it sends, tired and lazy, its last drops into the Aral.

In the Genesis it is said that the second of the four rivers which rose in Eden was "Gihon" which embraced the whole country of "Kus". This river is identified with the Vakshu of the Sanskrit books and the Oxus of the Greeks (in the name of the river "Vakhs" the old name of Oxus is still retained) which formed the frontier between Bactriana (Balkh) and Sogdiana (Bokhara and Samarkand), and on which many Indian wares were carried down to the Hyrkana Sea (Strabo); it is also identified with the Djihun or Yihun or Dshaihun of the Arabs (the latter also called the Syr Darya Jihun, and to this their actual dominion extended in spite of raids much farther east), with the Biano (Amu) or Viadme of Gonzales de Clavyjos (the envoy of Henry the Third of Castile to Timur in Samarkand), one of the rivers which flow from paradise, and with the Amu Darya or river Amu of the Turkish nations, which is said to have been called after the old town of Amujy or Amulje situated on its left bank. According to this its name should mean the river on the fortress which I, however, consider impro-

At "Kavakly" on the left bank of the Amu Darya. On the left hand of the man Hippophaë (tree). The other trees are Populus. The high grass is Erianthus Ravennae. L.

bable. That a river of the immense length of the Amu should have been named after one town and the name then remain through all time is more than problematic. In the Persian books Oxus is called Veh-rud, in the earliest Islamitic history it is called Al-Nahr (The River), so that Mavaralnahr (Beyond the River) should mean Transoxania. In Usbegic books it is called Bilkandi frindin. During my journeys here an Usbeg from Khiva explained to me that the word Amu meant something like silly or thoughtless, this name being due to its irregular course, the moving sand banks and its moving towards the east, but for this interpretation the Usbeg is responsible. The river formed the boundary between the realms of Minokhired and Afrosiab, Iran and Turan. Alexander the Great and Timur have camped on its banks, the Arab invasion brought Islam across its waters into the heart of Asia, the hordes of Jenghis Khan have traversed its waves like some time the Christian missionaries, whose doctrine had a firm footing in the countries both on its right and left banks. Timur built a bridge across it at Charjui and Nadir Shah at Kelif. Both of them were pontoon-bridges, and remains of the primitive structure of the latter are still seen at Kelif. Now modern railway-trains cross the historical river at Charjui on the new iron-bridge of the Russians by which the old wooden bridge, so familiar to me and to many other travellers at the end of the 19th century, was replaced in 1899.

Near Kelif the Amu Darya assumes a north-western direction which it retains mainly up to the Aral lake making sudden bends only at Eldjik, Narkisht Kala and Pitniak; owing to its broad, even and slow course and the many flat mud islands in connection with the flat banks it generally looks more like a vast inundation than a river. The boundary of its left bank is formed by the desert of Kara Kum (Black Sand) from the outlet of the Vakhs to Khiva, the territory on the right bank from Kelif to Surkhi opposite to the town of Kerki being steppe alternating with several cultivated spots and small kishlaks. But here the drifting sands begin, stretching as far as the Aral and delimiting the reed woods of the latter in the delta land of the Amu. These belts of desert where one wades in moving sand up to one's neck are, however, fringed by arable and cultivated land practically all along the river, and only on the stretch from Eldjik to the frontier of Khiva are there no inhabited regions. Some names on the maps might, indeed, suggest the existence of kishlaks, but they only indicate Bokharan forts, whose garrisons are often changed, or ruins of former castles, the witnesses

"Shār Togai". Copse on the left bank of the Amu Darya. On the right hand of the figure Lycium, on the left Halostachys caspia. In the foreground Albagi camelorum.. To the right tuft of Erianthus Ravennae; in the background and farthest to the left Tamarix.

of life, agency and fights in times past among the different people living here. Here are long oases covered with grass, 3—5 metres high, and with thick copse, the haunt of the wild boar. These generally impenetrable thickets consist of tamarisk, wild olive, poplar, hippophaë, licquorice root and white shining halimodendron. These oases of jungle and grasses where one's clothes are stripped off on trying to force one's way through them, are the haunt of the wild boar, who leaves the thickets to welter in the mire, and they shelter many pheasants, deer and antilopes; a few tigers may also appear now and then. These stretches are not desolate now, some nomadizing Kirghiz and Usbegs with their small herds living here in felt tents and mat houses.

Elsewhere along the river the monotony of the wide, flat meadows and reed- and rush-grown fens is relieved by copses of willow, poplar, camelthorn, tamarisk and salt-worts where numerous bee-eaters, rollers and falcons are busy, by yellow hills of moving sand which flies like foam from the tops on the blowing of the wind, and enlivened by myriads of lizards and a few small grey snakes, further by the cultivated oases watered by very deep canals cut out from the river.

In only a few places have the settlements the character of towns, except Kerki and Charjui. The few houses and farms, the larger of which are often small fortresses with walls and towers where the inhabitants once took refuge from the Turkomans on the left bank, are dotted about on the river banks each of them dependent on its irrigation canal from the river.

On the right bank, from Kelif about 80 kilometres downwards, the territory is rather fertile and well cultivated, and from here farther down on the left bank there is a belt about 10 to 12 kilometres broad with well tilled fields watered by canals which are fringed by large poplars and mulberry-trees. The remainder of the right bank to almost as far as the intersection of the railway with the river, is poor; as a rule the desert dunes go down to the river between the few cultivated oases, but on reaching Farab cultivated oases again occur whose kishlaks are shaded by huge elms, poplars, mulberry-trees and apricots as far as Eldjik, a small oasis town, with an Arab colony subject to the Beg in Kavakly on the left bank. Here the Beg resides in Turpak Kala (The Clay Fortress). At Farab the land is tilled, which is said to be due to a canal dug by Mussaffar Eddin Abdul Khan, the father of the present Emir; the well built houses situated here afford striking contrast with those

Between Hazar-asp and the Amu Darya. Wood of Erianthus Ravennae.
Next to the ground Glycyrrhiza glabre. In the foreground to the right a small Tamarix bush.

seen farther east at Karakul. Between the two latter oases appear the shifting sands of the desert whose eastern boundary is at Karumbai. Outside the oasis at Farab the river bank is richly grown with rushes; immediately south of the railway the banks are low, swampy, meadowlike, sometimes quite devoid of vegetation, only a little farther up the right bank of the river is a low range of hills.

At the intersection of the railway with the river on the left bank very fertile regions are met with; here is the old Bokharan town of Charjui where a Beg resides in a vast old castle. The greater part of the left bank comes under the rule of this Beg, one of the highest in rank in Bokhara. Here is also the Russian town of Charjui, the station of the Amu Darya flotilla. Arriving from the west from the Transcaspian sterile, moving sands of Kara Kum between Merv and Charjui, the surroundings of the latter afford an exceedingly pleasant sight. As far as the eye reaches northward, the fertile loess oasis is everywhere well irrigated. Until north of the town of Deh-nau fields and gardens in abundance are seen, but just north of this point, the cultivated land again narrows considerably, and the hills of moving sands appear, flat, low banks grown with huge masses of tamarisk only attaining a slight height or the above named jungle or a few rush-grown stretches. In the oasis of Charjui-Deh-nau live Usbegs and a few Karakalpaks and at the outlying edge of the desert in the west, where the territory of Bokhara ceases, nomadize Ata- and Ersari-Turkomans who live in tents. The region north of Charjui like other tracts on the river already mentioned have properly speaking no towns. The houses are spread over the cultivated fields, thus Deh-nau covers 25 kilometres. The centre is the bazar and a fortress; nearly every house is a separate fortress, the rich having towers on their houses, where formerly and, indeed, even now at times a guard (Karaul) was placed to announce the approach of the raiding (Alaman) Turkomans. By means of an alarm-bell the inhabitants were called into the fortress and the houses where they armed themselves with their matchlocks.

The river area of the Amu Darya is calculated to be 308,804 square kilometres, its fall from Kelif to Charjui is 67 metres, and from Charjui to its outlet it has a fall of only about 50 metres, thus a comparatively slight fall. The breadth of the river varies very much, partly owing to the different seasons, partly to the territory. Having at Kelif a breadth of only about 400 metres, it swells at Kerki to some 3 kilometres and at Kultak where the banks are exceedingly flat and low to about 5 kilometres. At Charjui its breadth at the

Wood of tamarisks on the left bank of the Amu Darya to the south of Khiva.

dry season is said to dwindle to about 600 metres for the main arm, but here it consists of 3 arms separated by mud- and sand-islands, inundated in the early summer and giving the river a breadth of about 3 kilometres and farther north of about 4 kilometres; everywhere it conveys the impression of a huge broad water-way, broken into arms by innumerable islands.

The depth of the river varies from ½ to 9 metres, in some places, however, much greater depths of about 21 metres have been sounded. In May the river begins to rise, in July the water is at its highest, then it falls until October, but after sudden heavy spring downpours a rise often takes place, thus in April 1896 when I passed the Amu Darya for the first time it was one undivided river at Charjui. At highwater the river overflows its banks, often several kilometres into the country, and sometimes it even encroaches upon the towns of the oases whose fields suffer much from the inundation. The greatest destruction is, however, caused by the collapse of the irrigation canals which become filled with mire and sand.

Characteristic features in the Amu Darya are its moving, its deposits of mud, and the enormous evaporation from its surface, and, we may add, the many theories and more or less historic facts from which evidence has been sought for its having at one time fallen into the Caspian Sea.

According to the law of current of Baer the tendency of the Amu Darya like that of the Volga and the Syr Darya is to press upon its right bank which appears from the low flat banks to the left and the higher and steeper on its right where the water eats continually into the land. The left bank forms a broad alluvial plain on which much sediment has been deposited. Observations made by Russian engineers for many years show that the river moves its course 1 kilometre to the right in 20 years. Owing to this shifting river-bed in connection with the mud deposits Transcaspia must have been covered with an extensive miry layer, and in this way there must arise a transgredient freshwater stratification. The huge masses of suspended matter which have been swept along with the river from the mountains in East Bokhara, Pamir and Hindukush, not finding a resting-place till they reach the Aral sea and the delta land are partly deposited in the river-bed and on the flat banks of the alluvial district. On the left bank of the river is an alluvial zone which is several kilometres broad, traversed by dry river arms and covered with reeds and rushes which form a

"Togai" (wood) on the right bank of the Amu Darya near Kiptshak. The long leaves above the head of the figure to the right are those of Populus diversifolia. The two large trees in the background are Populus. The lianalike plant with the small white flowers is Apocynum venetum. Next to the ground: Glycyrrhiza glabra.

pretty even transition to Kara Kum. Hills of grey sand rising here and there above the muddy ground connect the latter genetically with the sandy desert, 300 kilometres broad, whose yellowish grey sand hills run towards the south-west over about 800 kilometres to the gate between the mountains of Great and Little Balkhan. The sand dunes of a height of 10—15 metres which follow the railway from Merv to Charjui are situated on a sandy waste whose depth is 30—50 metres or perhaps more, as yellow dune sand has been found even 4 and 5 metres below the surface of the Amu. The desert, 240,000 □ kilometres wide, has with a depth of 30 metres a sand volume of 800 cb. kilometres, and as the sandy constituents from the Amu are hardly one third of the miry volume, two thirds at the least must have been carried along by the wind, as will appear from the description of the desert. Soundings in the bottom of the river have everywhere shown a layer of quite soft mire of a thickness of about 60 centimetres, and a profile of the river-bed at Charjui made by Russian engineers by means of 9 borings revealed a depth of the mud of the river of 10—23 metres. The mud is a sandy sediment containing such large quantities of miry constituents that the sand is quite insignificant in comparison.

The suspended matter carried along from the mountains by the river occasions the formation of numerous islands, the latter beginning already to a less extent where the upper stream of the river is now and then running more evenly over a terrace in its bed, thus even south of Kalai Khumb in Darvas, and their number increases considerably between the outlet of the Kafirnihan and Kelif, and from here to the delta on the Aral one long island is met with beside the other. The islands consist of mire or sand, more rarely the latter, only few covered with vegetation; one which I visited on travelling down the river from Charjui to Khiva was densely grown with woods, containing quantities of game, especially pheasants, elsewhere the greater part are grass-grown and the home of many waders. As most of these islands are covered with remnants of plants, they look as if they were firm, but one must beware of landing upon them, for one runs the risk of disappearing in mud up to one's neck, they are so soft and swampy. A few have firm bottom and are used for grazing by the nomads who carry their cattle along in large, strongly built canoes (gema).

The great majority of the islands are, however, one slush of sand or clay, devoid of vegetation and are a very troublesome

"Togai" (wood) on the right bank of the Amu Darya near Kiptshak. The large tree behind the figure is Populus. Farthest to the right is seen Populus diversifolia. In the centre and to the left in the foreground Apocynum venetum.

hindrance to navigation; for at high water an island is often found in another place than at low water. And at low water in summer the drought and immense solar radiation dries up the islands, the wind catches hold of them and removes them to other places which prevents a mapping of the course of the river for purposes of navigation. But for these perpetual formations of mire islands and sand banks, it would be possible to navigate the river from Kundus to the Aral, while now it is hard work for the small Russian paddle-steamers to force a passage from Kelif to Petro-Alexandrowsk; sometimes, however, the service is extended to Patta Gusar.

Immense quantities of water in the Amu become absorbed by irrigation or are lost by evaporation. From the elevated valleys of Vakhan in Pamir to the Aral water is led across numberless oases to fertilize the loess, and the simple fact that it has been calculated that the oasis of Khiva to be kept in tillage requires a surface of water of a depth of about 65 centimetres, of which only 6—7 centimetres are due to the downpour, shows what a part the waters of the Amu play in Central Asia, and it is comprehensible that the river falls lazily into the Aral, and almost exhausted traverses the last reed- and rush-thickets which are covered with layers of vegetable substance. Add to this the enormous loss of water due to evaporation not only from the flat, broad river, but also from the canals. A clear sky and a bright sun shines upon its stream often through 8 months of the year, the temperature of the air rises to 59° C., that of the water to 28° C., while hot winds from the sand drifts of the desert, heated to about 65—70° C., blow across it, which effected in the year of 1874—75, for instance, a loss of water in the river of 1280 millimetres, a quantity which means something, even in an average depth of 21 metres.

Owing to the markedly continental climate of Central Asia where the winter temperature is as low as the summer temperature is high, the Oxus freezes in winter so that the caravans are able to cross it on the ice. Even its main source, the Pandsh in Pamir, froze during my winter stay in Vakhan, Garan and Shugnan, and the masses of ice formed into waves and crests gave a fixed picture of the movements described in summer by the waters across the fragments of rock. From Kundus to the Aral, except a few places in the desert where it freezes only in severe winters, the frozen surface becomes a passage-way between the banks. At Khiva and Petro Alexandrowsk it freezes over every winter, also at Charjui, but the ice is rarely solid enough to support general traffic here.

At Kerki the camels cross the ice even loaded, and this is also the case higher up the river. During the ice-drift in spring the river is nearly impassable, at any rate for the steamers and very perilous for the gemas; at this season it forms an almost insurmountable hindrance to intercourse between the banks.

The numerous hypotheses which have been advanced of the former fall of the Amu into the Caspian must temporarily be closed by stating that this has been refuted rather than proved, although the question still requires new pleas pro et contra. But at any rate it must be taken for granted that from time immemorial the Aral has been the evaporating basin of the Amu and Syr. The altitude of the country south-west of the Aral tells against the supposition that the Amu turned towards the Caspian by this way. The outlet into the lake of the Sary Kamysh (Yellow Reeds) is a bifurcation and the supposed former river-beds here are dry valleys, vadies, the occurrence of which is due to sudden downpours and the wind, or else they are irrigation canals, as there are ruins of buildings etc. on several of them. The only probable outlet into the Caspian in former times seems, as is the opinion of Walther, to have been between the Balkhan Mountains in Transcaspia, but as the borings round about here have not revealed Oxus mire which the river has certainly always deposited, we must wait until future borings give us evidence which can prove whether or not it fell into the Caspian. For here history fails us, and the Turkoman legends are worthless as far as this matter is concerned.

There has always been a lively traffic on the Amu Darya: from Bokhara to India and Afghanistan, from the land of the Turkomans to Bokhara, from Bokhara to Khiva and vice versa, and there is hardly any reason to presume that the means of intercourse have not been the same sort of inflated skins and the same kind of gemas as those which now navigate the river and effect the passage between the banks, but of these we shall speak in another section together with the steam traffic; we shall also deal with the numerous tombs with their mausolea and great many older and newer castles found along the river, especially from Charjui to the Aral; the Amu is not inferior to the Rhine in romance; on the contrary, a voyage on the Amu is among the most interesting on earth.

DESERT BOKHARA

A third part of Bokhara, the north-westerly part from the foot of the East Bokharan mountains, is level country which, as it appears from the course of the rivers, has its fall towards the north-west. Of this the eastern part at the foot of the mountains is steppe: Karnap chul (chul means steppe), stretching towards the west from the oases of Gusar, Karshi and Kermineh and fringed by the desert of Sundukli (Sunduk means bag or trunk, in which things can be kept, whether alluding to the rivers being lost in the desert or to men and animals disappearing there, cannot be decided) on the Amu Darya, and Kemirek Kum northwest of the town of Bokhara, both deserts parts of the enormous desert of Kizil Kum which west of the spurs of Pamir and Tian-shan fills up practically the whole of the level country between the Syr, the Amu and the Aral lake, the easterly part of the Aral Caspian depression.

Properly speaking one is inclined to term the whole level country of Bokhara outside the watered oases desert; for the steppes are poor, often but sparingly covered with grass and herbs on which feed in spring and autumn the cattle of the Usbegs and Bokharized Ersari Turkomans, nomadizing here, whereas in the warm summer they must remove into the mountains. We have here to do with several sorts of steppes, thus the loess steppe, the sterile clay steppe, the sand steppe, the salt steppe and the stone steppe. The sterile clay steppe, by the native termed takyr, is quite unfit for vegetation; large bare, bluish grey spots are in summer firm as clay-floors on which the heaviest artillery would be able to drive, or in the wet season an inaccessible quagmire almost impassable for beasts of burden. In the salt steppes the crystals shine out among scarce grass, making the traveller believe at some distance that he approaches a lake; these salt steppes are often filled with fen holes, perilous for the rider, or the subsoil of a whole shining salt plane consists of bottomless fens, as in several places in Transcaspia. Everywhere in the valley salt deposits are found here and there, on the rivers becoming fens in the level country where artificial irrigation ceases; and owing to the rapid evaporation of the water the artificial watering itself produces formation of salt, a phenomenon very pernicious to cultivation. In the sand steppes high slender grass grows up soon after the melting of the snow and the fall of the spring rains, but as early as the beginning of June the scorched tops are swinging to and fro in the hot summer wind,

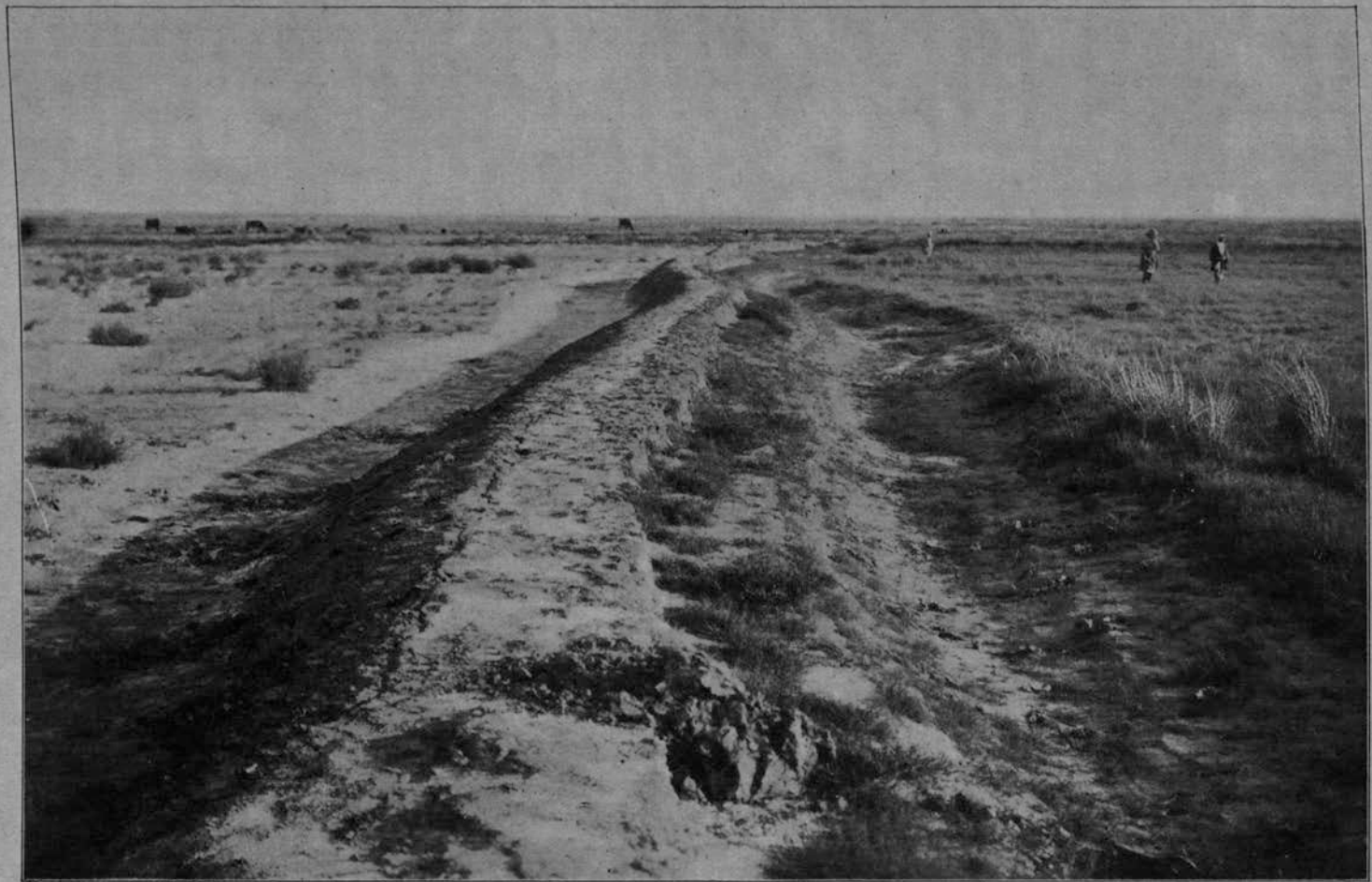
and numerous sand tornadoes, running parallel, move like corkscrews across the heated, desolate landscape where the wells along the caravan roads only yield brackish water for quenching the thirst of the traveller. In summer the singed steppe regions afford a picture not much less desolate than the deserts proper where the drift sand whirls. There are namely in Central Asia no larger deserts, in the literal sense of the word absolutely devoid of vegetation. Both in Kizil Kum and Kara Kum rather considerable areas are often covered with halimodendron and especially with halimodendron-ammodendron or saxaoul. The latter sometimes attains a height of about 4 metres, its roots go very deeply down into the ground, and as its stem is exceedingly hard and heavy, it affords excellent charcoal. It is therefore much sought by the natives, its wood being able to glow below the ashes for 24 hours, and the Russians are also keenly alive to its value, as it can be used with advantage for stopping the drift sand, and it may possibly be able to form woods in the desert which would be extremely welcome for the supply of fuel in Central Asia. Together with saxaoul different sorts of leguminous plants and umbellifers occur.

The valleys between the hills at the foot of the mountains towards the east consist of a substratum of clay covered by a more or less thick layer of quick-sand, in some places held by saxaoul, tamarisk, camelthorn and other shrubs, in other regions the desert consists of movable sand hills. North of the Amu Darya we meet with a row of rounded ridges of lime-stone, oolith and gravel covered with grass and other vegetation and relieved by hard clay plains. In these clay plains are sand hills (barkhans) of no considerable extension, but large enough to absorb the water from all the small brooks that run down towards the Amu in the wet season. The barkhans stretch in a belt along the river from a little south of Kerki to Charjui and farther north to Khiva. Between Karshi and the Amu Darya there are only a few scattered sand hills; west of the oases of Bokhara and Karakul the barkhans, increasing in size, approach close to the river Serafshan where there is only a narrow belt of arable soil, and then they run west and north of the oasis of Bokhara. The desert attains its greatest breadth at the northern frontier of Bokhara towards Russia where the barkhans go straight from the Amu to the mountains of Sussi Karatau off Kavakly where the breadth is about 73 kilometres, a like breadth is found south of the lake of Dengiz where the drift sand reaches

from the Amu to the hills of Karaul-tau (The Watch Hills) across which the caravan road leads from Karshi to Bokhara. The barkhans reach farthest out into the level country at Bokhara where a belt of sand hills occurs at a distance of about 12 kilometres north of the town. South of the railway the desert approaches close to the oasis, and the oasis of Karakul is surrounded by desert on all sides. The capital of Bokhara with its open plain is thus on all sides, except the eastern, encircled by threatening deserts; its importance as a large commercial town, which it is even at the present day, is due to its being situated on the road between the richest regions of Europe and Asia. Its future lot depends very much upon the further development of Samarkand; if a greater and greater demand is made upon the water of the Serafshan for this oasis, drift sand around the old Emir town may perhaps bury its flowering oasis as has certainly been the case with several others in the Bokharan level country where in numerous places it appears from the ruins of dwellings, caravansaries, castles and aqueducts that regions now thinly populated or quite desolate have formerly known better times.

The springs in the deserts and the desertlike steppes are comparatively few, although there is no doubt a sufficient amount of water in the subsoil where the water of sudden showers soon soaks deep down and is later on sheltered from evaporation by the layer of sand; if only people would dig to get water, but much is in a state of decay in Bokhara. The springs are rarely more than 5 and 6 metres deep, a few as much again; in most of them the water does not reach more than half-way up. Their temperature in midsummer is about 15° Centigrade when the temperature of the air is 38°—40° Centigrade. In the cold season the water in the springs is said to be warm, and it is very possible that to some extent they keep their degree of heat from the summer.

Long ago it was clear that the barkhans, a formation, which is typical for the deserts of Bokhara, must have been carried hither by the wind, as they are situated on a solid substratum of clay. Sometimes their occurrence is very sporadic, and it looks as if they had been unloaded on the solid plain; in other places they form one continuous flat desert. In the former case they do not hinder communication to any considerable degree, no more so than that one can drive in a landau from Bokhara through Kizil Kum to Petro Alexandrowsk and from Karshi to the Oxus and Bokhara. Where the sand hills have been blown together to one immense



Salt desert near Bokhara. The dike in the centre surrounds a piece of ground which has been irrigated (according to report but once). The richer vegetation is seen here to the right consisting chiefly of Eloropus lævis; in the autumn wheat was to be sown here. To the left the desert, white with salt, with spread vegetation (Eloropus and a Chenopodiacé (1690).

sandy waste looking, for instance, on the banks of the Amu Darya like an agitated sea, stilled as if by magic, there the passage is very difficult, even on camels, especially in the hot summertime, and on foot, according to my own experience, impossible over rather long stretches.

The desert has its own peculiar charm; such delicate tones of colour, so gracefully undulating surfaces as those formed by the fine yellowish grey desert sand are only seen in the desert. But the desert is desolate and terrible when water and food is lacking and when the burning desert wind heats gun-barrels and all metallic objects so much that one cannot touch them. The head becomes heavy, the brain wanders, and hallucinations reduce the traveller into a desperate state of mind; but, if one is mounted on a good camel with well filled water-bags and sufficient provisions, duly sheltered from the beams of the summer sun or the icy cold of winter and sure of one's position, the desert affords a beauty of scenery of the highest order. Deep, unbroken silence reigns in these regions, and the human soul is elevated by the sight of the delicately tinted landscape.

There is no lack of variety in the desert; for it is the country of geographical paradoxes. Here are sources without brooks, rivers without outlets, lakes without outlet, dry valleys, dry delta deposits; wandering here one finds one year an extensive lake, the next year it has disappeared leaving no trace, there is nothing but a waterless depression; we experience a variation of temperature which may within a few hours attain 50° Centigrade, but can be borne without any particular inconvenience on account of the total dryness of the air. Sometimes on a clear and hot summer day the sky becomes suddenly overcast, so that one believes that a heavy shower is at hand which is the case, indeed; the rain is seen streaming down in the higher layers above one's head, but it evaporates long before it has reached the sand of the desert. The disintegrating action in the desert is also very intense.

When the tempest occasionally rages across the desert, all the sand hills reek like foam on a rough sea; then it is perilous to pass through the desert, and great devastations are often occasioned in the surrounding country where the sand drifts into the oases, wasting the fields, filling the irrigation canals and stopping the traffic on the railway. When such a sandstorm roars over the desert and hurls its innumerable masses of quartz grains (the sand often contains about 70 per cent quartz) against every hindrance, grinding

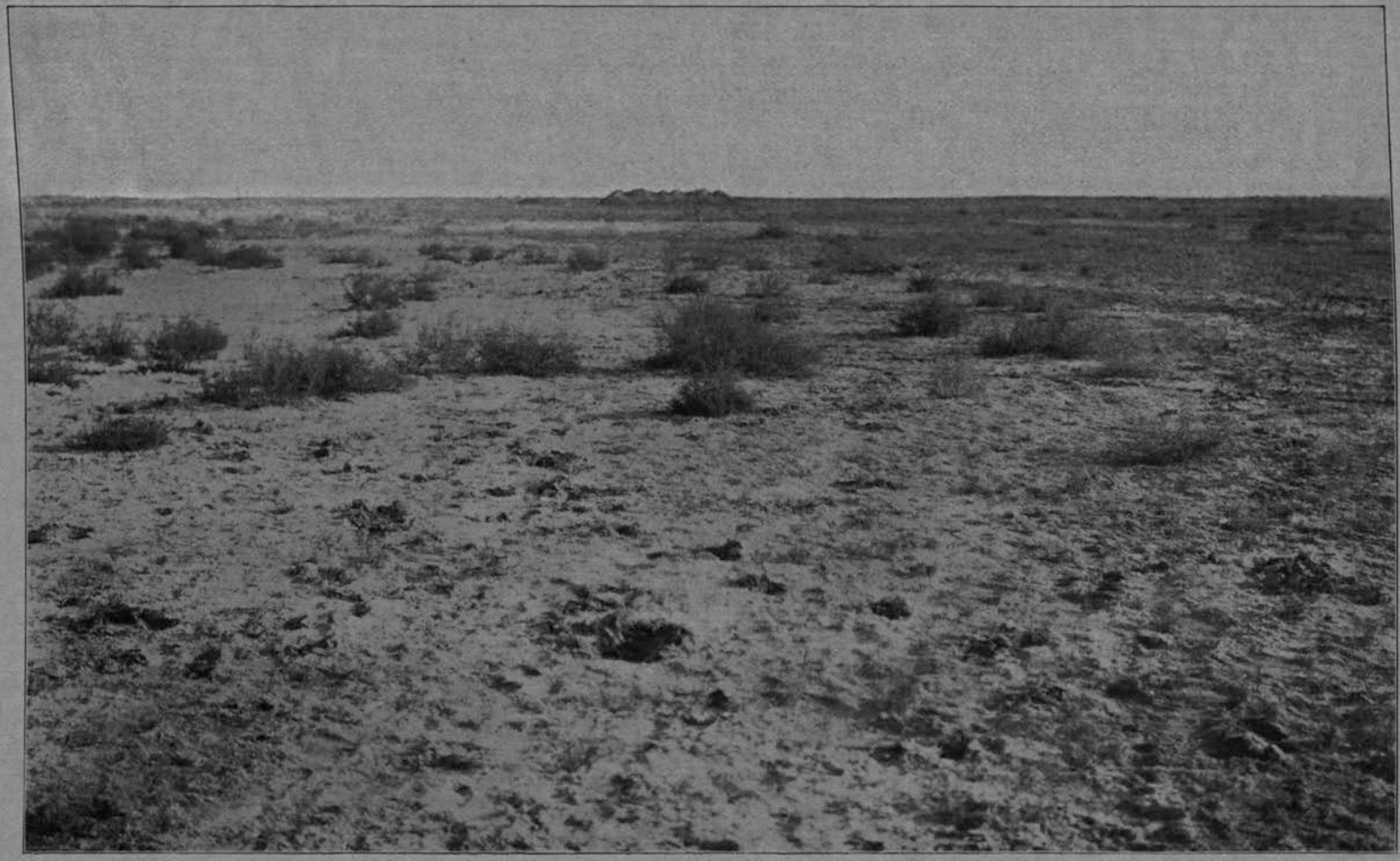
Sandy, formerly cultivated region near Bokhara ("rehsār"). An Astragalé (1698), Albagi camelorum, Peganum Horwalæ. L., Lycium, Zygophyllum Tabagi.

traces are left on all objects, on houses, trees, stones, on the telegraph-wires which in Transcapia had to be renewed after eleven years' use because the sandstorms had worn them down to the half of their original thickness. The storm sometimes flings stones as large as peas against the train with such force as to leave traces on the faces and hands of the passengers and gives the train the appearance of having been fired upon with shot-guns for a long time.

In the formation of the mainland downs, the dunes, the rivers Amu and Syr take a great part. Enormous masses of sandy mire are conveyed by both streams from Tianshan, Pamir, Hindukush and the East Bokharan mountains mentioned above. Both rivers move from the south-west to the north-east, and their left banks, traversed by many branched canals and dry ditches attain a breadth of some ten kilometres. From March till July the water rises 3 metres, overflowing the bank for a long stretch into the country where its sandy mire is deposited. Owing to the inundation the settlements are situated a great distance from the left bank, but close to the right one. As soon as the water begins to decrease in the Syr Darya, the strong burning north wind dries up the flat banks, blowing all dust and miry particles away in the same way as corn is treated in a thrashing machine where the chaff is blown off and the corn left behind. The remaining cleansed sand is blown up into dunes by the wind, and out of the bank landscape rises the desert of Kizil Kum. With a rapidity of 20 metres in a stormy day some barkhans wander south, but their average speed seems to be only 6 metres in the year; at all events, this is the rate at which the sand annually reaches the Transcaspian railway and the banks of the Amu Darya. The miry Amu Darya, where the right bank is steep like that of the Syr Darya, displaces in 20 years its steep bank 1 kilometre towards the north-east while a plain that reaches several kilometres into the country is inundated every spring.

The sand which forces its way from the north in the desert of Kizil Kum rushes out into the Amu; here it is carried along by the highwater of the stream, is mixed up with mire, and finally it is deposited on the left bank. Here the same proceeding takes place, and the sand wanders on towards the Caspian sea where it is intermingled with the dunes on the lake bank.

The oasis of Bokhara is situated at the southern edge of the sandy waste that covers an area of about 1800 square miles from the Syr Darya to the Amu Darya and from the Serafshan to the Aral. According to the observations of Russian engineers the crests



Desert near Bokhara. The earth is white with salt. In the foreground is seen indistinctly the grass Eloropus lævis. In the background a Chenopodiacé (1690).

of the dunes wander in winter 12 metres northward and in summer 18 metres towards the south, the aggregate movement of the sand thus being 6 metres towards the south in the year.

The solid grey clay ground here becomes covered with loose yellow drift sand, but the sand district does not end in the form of a wall, but dissolves into smaller sand heaps which, situated one beside the other, allow of observation of the most various stages in the formation of dunes.

The first beginning is a flat sand heap of any form, the origin of which may be due to unevennesses in the surface of the ground, small stones or stalks of grass, and even undulating movement of the gusts of wind. The sand heap thus formed is a hindrance to the sand when rushing along, part of it drifts to the top of the sand heap, whose top is at the same time pushed forward a little, but the greater part flies to the sides in order to reach the lee side. Thus the irregular sand heap by degrees assumes an egg-shaped form and from both foresides forwards and laterally sand arms grow out, slowly encompassing a sandless gulf continually increasing. Then the shape becomes that of a horse-shoe approaching the half-moon more and more.

The change of the outline of the sand heap is accompanied by the transformation of the profile. While the greater part of the drift sand lies down on the sides, part of it wanders upon the flat sand heap, moving further on its ridge and displacing the summit of the dune towards the front. The highest point comes to be very near the level ground in consequence of which many sand grains fall down into the half-moon gulf. Thus the dune flattens in two ways; its wind side is made up of a long slowly ascending sand ridge produced by the horizontally drifting sand. The lee side, on the other hand, originates from the sand falling down perpendicularly and consequently standing at a steep angle. This is the formation of the typical barkhans of Bokhara and the arched dune; on wandering along, two or more often unite into twin barkhans made up of a whole row of half-moons.

The barkhans come into existence when the wind is light, but when the tempest rages, all is changed and levelled down to furrowed sand fields, — and then again barkhans are formed by the usually calm winds, their occurrence being extremely characteristic of Bokhara.

The deserts afford a very interesting picture. Like the waves of an agitated sea sand mountains tower to a height of 10 and

15 metres above the level of the desert round about in Kizil Kum and its spurs. A few tufts of grass, a reed, a greyish green tamarisk and a thorny acacia are strewn among the sand hills, but often nothing is seen but the yellow sand as far as the eye reaches, nothing but arched dunes and between them deep sand valleys or solid clay valleys.

The flora is poor in the wandering dunes, a single tamarisk, Iris caucasica, Eremurus Olgae grow together with the rhubarb plant, whose large leaves are spread out flat on the sand, tufts of sand oats, a few Ammodendron, and only in the deepest depressions between the barkhans is a green vegetation seen. In the latter the fauna also becomes richer; small birds chirp in the tamarisk bushes, and a great many lizards of all sizes run swift as lightning over the sandy waste. On clapping one's hands they lie down flat on the sand which they sprinkle over their bodies, so that nothing but the head peeps out; they think themselves thus well hidden and turn their heads with their bright small eyes all round after the disturber of the peace, when stillness returns they again rush about with their tails in the air. A few attain a length of about $^{2}/_{3}$ metres and are like small grey crocodiles. The ateuchus rolls on with its egg-balls. With the ball between its hind legs it advances backward up the ridges of the barkhans, the ball rolls away down into the valley, and again the large black ateuchus runs down to fetch it and proceeds with its Sisyphean task. Now and then a covey of birds of the same colour as the sand flies up with a great noise, and in the distance the delicate forms of the antelopes stand out faintly against the undulating plain of the desert, so that, literally speaking, the desert is not lifeless everywhere and at all times. Where these deserts are now situated, the Sarmatian sea, the Aral-Caspian inland sea, rolled its waves in the miocene period. Owing to an evaporation surpassing the downpour the lake dwindled down, and later on the sand storms came rushing in. The remaining salt lakes became covered with sand, and even if the formation of sand and gypsum is continually going on in larger districts of depression within the deserts, these salts are at any rate principally due to such sand filled hollows.

In the districts of depression in the deserts the peculiar gypseous crystals filled with sand occur on the sand bottom, and on being taken away they form anew. The desert sand, yellow at the top, becomes greyish yellow farther down, then grey, and at a depth of about 20 centimetres the first gypseous formations occur.

To begin with small and few, they increase in size and quantity downwards. In a nest of gypseous sand such a gypseous crystal is placed, intermingled with sand, but with distinct stereometrical outlines. When brushed they can be freed from the sand, and in this state they are to be found everywhere on the railway-stations where they are sold as souvenirs. The gypsum in the soil is pernicious to vegetation; and desert plants, elsewhere one metre high, attained but 20 centimetres above the gypseous formations; a Russian engineer, therefore, on laying out a piece of ground for cultivating desert plants, had a plain of a size of about 2200 square metres cleansed from all gypsum, but few years afterwards new had arisen, so that for the present it seems impossible to get rid of it.

THE LOESS

A journey through a country always leaves certain fixed impressions upon the memory, so that they can hardly be effaced. He must be deaf and blind who does not after a short stay in Mid and Central Asia remember the cooing of the turtle-doves, the braying of the donkeys and the crying of the Mueddins from the minarets, or whom the very word "Bokhara" does not make think of something perpetually yellowish grey. The deserts are yellowish grey, except in spring the steppes also assume this colour with a brownish or sometimes dark brownish shade, and the inhabited oases, whether in the deep mountain valleys or on the plains of the level country have everywhere except in early spring a yellowish grey tint. The houses are yellowish grey, the roads yellowish grey, the tops of the trees are covered with a yellowish grey layer of dust and the traveller in the desert soon assumes the same colour.

Only one tenth of the land of Bokhara is arable, namely the parts where there is loess. It is the fertile loess that gives the country its peculiar character in the cultivated places and in part in the steppe; as typical as is the yellowish grey sand in the desert, as typical is the yellowish grey loess in the oases. The latter in connection with the water from the rivers is of vital importance to the agriculturist, and it is not without reason that they say in Turkestan: "where there is Turpak and Su (clay and water), there the Sart is (the resident)", or "the Sart rises from loess, lives in loess, and wherever there is loess, there are Sarts". As sterile as

the yellowish grey sand is, as fertile is the loess; when irrigated sufficiently it calls forth, as if by magic, all sorts of vegetation and allows of the growth of one species of corn after the other on the same fields without the least manuring, even when the soil is treated very primitively.

The loess is a yellowish grey sediment, charged with lime and sand and carried by the wind or deposited by the rivers; it originates from disintegrated matter from the mountains. It occurs in the highest valleys in Pamir and the East Bokharan mountains, from the uppermost Vakhan to Darvas and from the Alai steppe to Karshi, in the oasis of Bokhara and on the middle course of the Amu Darya, thus from the most considerable heights to the lowest level countries, and it plays the same part in the East as the black earth in the West. In the districts on the Syr and Amu Darya the depressions are fringed by loess, the soil in Charjui, in the oasis of Bokhara, on the Kashka Darya, in Gusar, Karshi, Shahar-i-sebbs consists of the fertile species of clay, and it can very well be said, whereever there are cultivated fields in the valleys and on the mountain terraces. On the middle course of the Amu Darya the East Bokharan mountains are fringed by the loess, the flat deposits of which extend for miles here.

In moist weather the loess is to wade in like bird-lime; it is difficult for animals and men to force their way through the greasy, sticky matter, and in dry weather it becomes as hard as cement, so that driving on the rough roads through the oasis is like driving on a frozen ploughed field, but nevertheless it keeps its porosity upon which for one thing its fertility depends, as the rain-water or the water conveyed artificially and the ground water easily obtain communication with each other.

The thickness of the loess varies very much, in several places in the valleys of Pamir or East Bokhara it is hardly one metre; in the oasis of Gusar there are layers of loess of a thickness of 15 metres, at Karshi and in the country surrounding the East Bokharan mountains upon whose foot the loess leans, it has a richness of 90 metres; here it is stratified and eroded in numberless labyrinths, and in regions outside Bokhara the thickness may attain several hundred metres.

In a few places the loess is distinctly stratified, in other places not. Richthofen distinguishes land loess and lake loess; the former has been conveyed hither by the wind and deposited in the valleys, in previous fens or in places where it has found rest, in quite the

same way as drift snow; the latter has, on the other hand, been left by the rivers. Middendorf separates the stratified from the non-stratified loess, he looks upon the latter as the primary and upon the former as the secondary form. With strong reasons Richthofen has proved that strata of loess of a depth of 200 metres have been heaped up by the wind.

But at all events it is evident that both wind and water contribute to the formation of loess. Times without number, so to speak, every day in the long summer I and many other travellers have observed that the wind carries along through the air the fine dust from the loess which is easily pulverized, and even when the weather is calm, which is typical for this regions, the heated rising air conveys quantities of dust, so that the sun is sometimes obscured or appears as nothing but a dark red disc whose edges are never sharp. On my journeyings even in the waste Desert Pamir I observed this phenomenon very often, and it acted repressively on the astronomic fixings of the locality. On the wind setting in dense loess-dust storms arise; their influence on the cultivated fields is not injurious, however, owing to the nature of the material; but they are very inconvenient to all living beings and also to the plants which are covered by a layer, one inch thick. Some authors are of opinion that the fluviatile loess originates from irrupted particles of older species of stones, and I am inclined to believe that this is right, as even on high terraces in the mountains at a height of about 2500 metres deposits of loess occur that are carried down by brooklets and the melting snow and make up an arable stratum very much mixed up with deposits of stone. It has also been observed that on rivers drying up, a layer of loess is left here, and on periodical flat lakes appearing in Alitshur Pamir near Bulunkul and Gaskul I have witnessed quite the same phenomenon. The loess originally stratified may, when dried up and exposed to the heat and the wind, become pulverized and be removed to other places by the wind or carried aloft by the heated air; thus both wind and water are concurrent factors in the formation of the loess. But the proper reason why water and wind have, after all, an opportunity of depositing loess must no doubt be sought in the violent and sudden changes of temperature in these regions; owing to them the species of stones in the mountains have at one time a temperature of about 50° Centigrade and a few hours afterwards they are cooled down to 10° Centigrade below zero. These abrupt changes pulverize the mountains; the highter material of the latter

is either carried away by the wind or the water, whereas what is heavy and rough is left or only moved by stronger streams.

It is characteristic that as well the stratified as the non-stratified loess occurs in connection with conglomerate; this is seen both in the mountain valleys of Pamir and East Bokhara and in the level country. As a rule the loess lies above the conglomerate, thus it is apparently a younger formation; most frequently conglomerate and loess alternate; this is the rule in stratified loess, but rare in unstratified. The alternation of stratified loess and conglomerate shows, that the quantity of water and power of the current must have varied periodically in the rivers; for only rapid rivers conveying much water can heap up the masses of rough conglomerate whereas the loess is deposited by those running more placidly.

In numerous river valleys in Pamir and East Bokhara distinct terraces occur, sometimes several, one above the other. The valleys often consist of expansions, connected by narrow outlets. At remote times the rivers have certainly been separated in a row of lakes where loess has become deposited in the stagnant water, but on the waters breaking through and rushing on, conglomerate has formed above the loess and so on in periodical alternation.

The loess in the Aral-Caspian depression seems to be chiefly the secondary one. Regel draws attention to the fact that the loess of East Bokhara cannot have been heaped up by the wind, but must be fluviatile. The steppe loess between Dyam and Karshi is stratified; only in the undulated crests running through the steppe heaps of unstratified loess occur here and there. On the Gusar Darya the deposits of loess whose richness is 15 metres alternate with fluvial material, which shows them to be fluviatile. This explanation does not, however, hold good in the Pamir valleys where unstratified deposits of loess which must have been carried hither by the wind are seen in numerous places in the Pandsh valley and in High Pamir itself. At the foot of the mountain slopes appear heaps of blocks of stone and rough mountain material, only outside this belt is the loess.

MY VOYAGE ON THE AMU DARYA

On the 17th of June 1899 we arrived at Charjui in the railway-carriage which had been placed at our disposal. At the station we were received by an officer despatched from the military

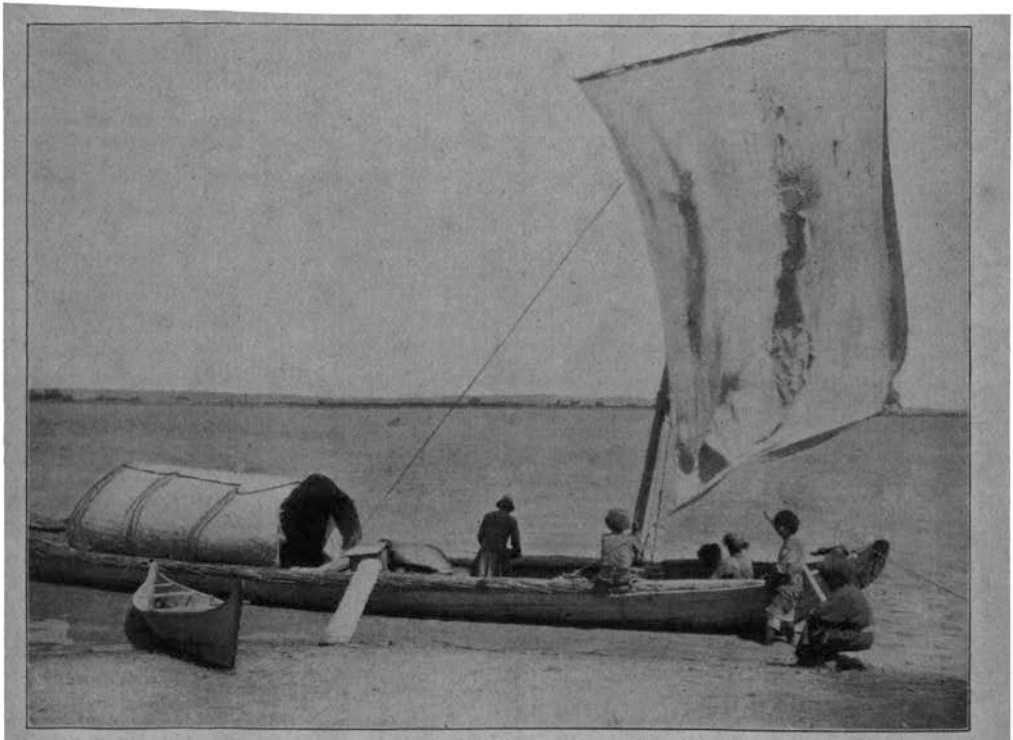
District Governor there, who, strange to tell brought along with him a Danish interpreter, Mr. Neuhaus, engineer on the Amu Darya flotilla. The officer told us that after a visit paid him by General Ivanoff, Vice-Governor General in Tashkent, the District Governor had procured a large cano for us in which we could go down the Amu Darya to Petro Alexandrowsk, and that rooms had been prepared for us in the only hotel of the town the „Amu Darya". We preferred, however, sleeping in our railway-carriage till the boat was ready and provisioned, knowing the hotel from a former occasion.

Having paid a visit to the District Governor who placed his authority in our hands we inspected the cano and spent the evening with Mr. Neuhaus. He was the only Dane we met in these regions. After having worked 16 years in Russia and the Caucasus he was since 1892 engineer under the Chief of the Government Amu Darya flotilla. Mr. Neuhaus now resuscitated his native language which he had not spoken for many years, and he and his wife did all they could to assist us in the equipment of our boating expedition. Charjui is, so to speak, a small maritime town in the midst of the Transcaspian desert through which the Amu Darya, 3 and 4 kilometres broad, sends its huge mass of waters, which are here of a dirty yellowish colour. The town is quite Russian, and it has sprung up round the railway-station from which besides the Transcaspian railway another railway runs along the Amu Darya southward to Kerki.

It is refreshing to let one's eye rest upon the broad surface of the river where the beflagged paddle-steamers are lying north and south of the long and dreadfully rickety wooden bridge which has now for many years carried the trains to and fro from central Asia. An iron bridge is now being built north of the wooden structure, but it will not be finished for a long time yet, as up to now only a few pillars have been constructed. The steamers bound southward are comparatively large while those which go down the stream to the Aral are very small. Navigation is very difficult owing to numerous sand banks in the river and their constant change of position.

On the eighteenth of June we put on full dress early in the morning as we were to have an audience of His Highness the Emir of Bokhara on his passing through the town in a special train at 7 o'clock a. m. on his way to the baths in the Caucasus which he visits every year. All the military and civil authorities of Charjui had assembled at the station whose buildings were deco-

rated with garlands of flowers. On the platform a Russian infantry guard of honour had been drawn up, playing the march of honour of the Emir when the train, full of Mussulmans who inquisitively put their heads out of the windows, rolled noiselessly into the station; the extremely elegant, red lacquered saloon carriage, a present from the Emperor Nicholas II to the Emir, was the last in the



Our gema on the Amu Darya.

train. It is very large, and all its compartments display the Bokharan star in gold with the crescent below.

When the train stopped and carpeted steps had been placed before the carriage door, the descendant of the renowned Bokharan Emirs, Saïd Abdul-Achad, alighted from the carriage and proceeded along the front of the guard of honour, dressed in brownish red: a long caftan (ton) with the badges of a Russian general, large white turban (sallá) and trowsers with red stripes like those of a Russian general. Russian orders in brilliants shone on his breast. It was the fourth audience I had of His

Highness, and each time I saw him in the same red dress. The Emir is a tall, stout man with an engaging face, but somewhat pale and delicate looking. After the parade the Emir received in his railway-carriage the officials present all of whom, I believe, wore a Bokharan gold or silver star on their breast. The Emir is very popular, and under him a Central Asiatic court life has, so to speak, developed; a European festival in the Oriental palaces of his Highness is not an impossibility, but it preserves its own character in accordance with the special conditions.

The Emir who during our stay in Pamir had been decorated by his Majesty King Christian with the Danish grand-cross in brilliants, immediatiely called us into his splendidly furnished room where we had an opportunity of thanking him for the years we had now passed in the provinces of Bokhara and for the Bokharan order he had given Mr. Hjuler and Mr. Paulsen. His Highness charged us with the presentation of his compliments to His Majesty The King, his Royal Highness Crown-Prince Frederic of Denmark and Her Majesty The Empress Marie Feodorowna. The Emir spoke Persian which was translated by the Dragoman of the Russian political agency in Bokhara. Soon after the audience the Emir proceeded on his journey to Old Charjui to spend a week there with one of his most distinguished Begs.

Places had been reserved for us in the train to enable us to go to Old Charjui where the reception of the Emir by the natives is said to be very interesting; we did not, however, accept the invitation, as our cano had been ordered to be ready at noon, and we wanted to get away as soon as possible for our work. Our Sartish servant Sherif took care of the provisioning of the cano for 15 days, procuring the same things for us as on our journeying in Pamir, namely rice, vegetables and raisins for the pillau, besides bread, biscuits, salt and spices. Our baggage, only amounting to about 600 pounds, was taken to the boat on a Turkoman two-wheeled arba and at 12 o'clock we stood to the northward with a crew of 12 Turkomans. Mr. and Mrs. Neuhaus, after seeing us off in the boat, nodded farewell from the bank. The cano which the Turkomans call gema was 90 feet long and 11 feet broad, built of apricot planks without frames, only shored by 4 thick transversal planks, which at the same time served as thwarts. Both stem and stern were high and pointed. In the middle of the cano there was a covered cabin made of branches and mats where we sat down with our baggage on unfurled sails which in case of fair wind could

be hoisted on the top of a mast. In one end of the boat there was a fire-place of clay and an ample supply of wood, so that on the voyage we might cook our food and even bake bread from the flour brought along with us. We now drifted before the current which ran at a rate of some 5 kilometres in the hour. The Turkomans steered with large wooden shovels under the direction of their Darghan, who knew the current. When any manoeuvre had to be gone through, it was always preceded by a loud discussion often ending in a small fight, and then the manoeuvre was generally too late. Every other moment we stuck on one of the innumerable sand banks in the river, and the Turkomans, after getting out, had to push their backs against the long cano which was writhing like a worm and bending in all its joints, before they were able to get it afloat.

The huge stream is on both banks fringed by reeds and rushes from which numerous yellowish grey mud-houses peep forth. We passed by several grass- and rush-grown islands where large herds of sheep and cows were grazing. Once we saw the Turkomans disembark a cargo of cows in one of these real fever islands. Both islands and banks belong to Bokhara and are mostly inhabited by Turkish Usbegs (Ösbag). In the afternoon we went on shore where we had discovered some houses built of mats among the reeds which here attained a height of about 5 metres. We wanted a sheep to be killed not having brought meat along with us. The few Usbegs living here anxiously asked what our business was here. Of old they are always much afraid of Turkomans coming on shore, as this means nothing but plundering. It was, however, a comfort to them to learn that we only wanted to buy a sheep and, what is still more remarkable in these regions, would pay for it. They took us to an island where the sheep were, and with the help of our companions Sherif struck the bargain; we got the sheep for 10 Bokharan Tengi.

The island was one slush of mud in which one waded half-way to one's knees among the high rushes from which decayed vegetable substances sent a strong stench. The island was the haunt of many terns, ducks and small birds, especially larks which flew about chirping. Both islands and banks are fever-stricken places owing to their many fens. We were supplied with all modern febrifuges. As a preventive measure we swallowed twice in the day a solution of arsenic and quinine which is generally used as an effective medicine in the oases of Central Asia; the medicines

for which there is the greatest use are those against fever and insect stings. The boat was full of large spiders that lived in the gunwale which was covered with bundles of reeds. On the latter the crew ran to and fro whilst navigating the cano. To protect ourselves from these insects we strewed insect-powder about, and in the evening we smeared our faces with laurel-oil. The smell is not pleasant, but is good against the mosquitoes. The insect-powder is well known among the natives; they call it burga dorré i. e. „flea medicine", and, certainly, no one wants flea medicine more than the Central Asiatics. Towards evening we stopped at a small wood where some Usbegs lived in houses made of mats. Wrapped up in our blankets we fell asleep on the bottom of the cano to the song of myriads of insects which were swarming in the underwood of reeds and tufts of grass, 3 and 4 metres high.

June 19. We had slept soundly all through the night without being tormented by the mosquitoes, and having drunk our indispensable 5 or 6 glasses of tea we went out shooting pheasants in the small wood which is said to contain many of these birds. We were not fortunate, and as the fishing of sheat-fish, many of which the Turkomans had hooked the day before, did not succeed better, we stood to the northward at nine o'clock a. m. Round about on the rush-grown river banks and on the islands we saw many small handsomely built kaiks with high stem and stern, all flat-bottomed like our own, and fishing-nets were placed outside the kishlaks giving these the appearance of small hamlets. A small kaik with 3 men suddenly steers towards us. The shovels are laid in, and the men hook on to our kaik. A terrible scolding arises between the newly arrived and our people who are accused of having stolen a fish-hook. They had possibly done so; but as the scolding became too loud, and on their even beginning to belabour one another with sticks I made Sherif chase them away. He boxed all their ears, and then they sailed off quickly.

On the eastern side, instead of the oases, the terrible drifting sands now began to appear along the banks, here and there relieved by small oases; on the western bank a fertile stripe of ground steadily followed along the river bank. This is due to the eastern bank being now so high that the natives cannot cut their irrigation canals from the river. All agriculture in the oases depends upon artificial irrigation of the fields through innumerable canals. When the field is fit for being sown, water is led across it through a great many ditches and furrows cut from the main canals (arik).

The natives have exact rules which prescribe how often the soil on which each species of grain is to be grown should be irrigated. — The beams of the sun shining upon the yellowish grey sand dunes without the relief of a single cloud, hurt one's eyes when looking towards the shore, and a burning wind blows hence to us. It is as if turning one's face towards a blazing fire. At noon the heat vas unsupportable, 42° C., with a cloudless sky. In one place in the desert where we went on shore to get water from a spring, as the muddy water in the river had a bad taste, the sand had a temperature of 53° C. This is far from being the maximum temperature in this desert which is a spur from the large desert Kizil Kum (Red Sand) east of the Aral, and our Turkomans said that it was not so bad in spite of the perspiration streaming down their faces from their large fur-caps. At noon we could do nothing but lie stretched out in the boat, fanning ourselves with the chip fan commonly used here in Central Asia and taking one cup of tea after the other. One feels quite dried up in this heat.

We passed by a ridge of hills on the eastern bank of the river called Kirr-adsh-Kirr. Asking our people what this word Kirr meant they gave an answer which is very characteristic of conditions here in former times. „When a Pasha has raised such high taxes that the region is at last as desolate as this barren ridge, then we call it Kirr"; Adsh means hungry, and the proper translation of the name would be The Hunger Hills. Regular sailors would no doubt find such navigation as that performed to-day by our kaik extremely ridiculous, for we drifted before the current, and now the stem, now the stern or the side was foremost; and then we whirled round a couple of times in an eddy or ran aground on a sand bank so that our men were obliged to jump out into the water to get us afloat. Where the water was not deep and the current not too strong, they often enjoyed springing into the water to bathe. But none of them had any idea of swimming. On the boundary of Kirr-adsh-Kirr which is covered with salt-worts appearing here in the form of bushes we see a funny collection of clay-pyramides about 1 metre high, terraced or tapering to a pointed top. The tombs belong to the small oasis situated behind the hills. It is, also, the first time I have seen this form of tombs in Central Asia which are elsewhere shaped quite otherwise. In the midst of the tombs white rags floating from staffs designate that the saint of the oasis is buried here.

A little after sunset we moored at the small oasis of Olma-

tjukkur (The Apple Hole) grown with tamarisks. The sunset looks very curious here. About 5—6 degrees above the horizon its light is so much softened down by the great quantities of dust always to be found in the air in Central Asia that it looks like a yellow balloon. On sinking it assumes a peculiar flattened oval form owing to the strong refraction; it leaves a rainbow coloured light belt along the horizon, the dusk lasts only for a few minutes before the darkness of night sets in. Immediately after coming alongside our servants went on shore and without asking leave of anybody took to sawing large pieces of a felled trunk. It was, by the way, their usual occupation when going on shore although we had fuel enough in the boat, but presumably they carry on a small business with this article. Or they sat down to fish sheat-fish with their large iron hooks which they barted with grasshoppers. The main constituent of their meals were the flat wheaten loaves which their cook baked in the boat in a large iron pot, and tea. Every morning they had pillau, prepared generally with rice and an admixture of sesam oil brought along in a large leather bottle; meat they had only the first few days of the voyage. But these people are content if they have only bread, salt and the green bitter Chinese tea.

On the 20th of June we left Olmatjukkur at 7 o'clock a. m. while a man was calling after us from his flat clay-roof. As far as I could make out it was the man to whom the tree-trunk belonged. A piece of it was now placed in our room to make up for a table. When Olmatjukkur is left behind there is on the right bank nothing but desert for a long stretch; sand mountains of a height of about 100 metres and resting on a layer of sandstone run down to the river with a steep incline. We had a real hurricane against us and advanced but slowly. There was a rather heavy sea, but the large kaik held its own. We drifted towards the western bank, and not being able to get along further against the wind we stopped at a small oasis covered with tamarisks where our people knew the Aksakal, Sultan Mahommad, who lived there. After much discussion we succeeded in making him sell a score of eggs and some fat, and having taken some photographs of the high tamarisk, reed and grass woods, we again drifted northward after the wind had gone down.

We were now carried by the current towards the oasis of Eldjik whose high clay-mosques and ruins of an old fortress afforded a striking contrast to the green crowns of the apricot-trees. The

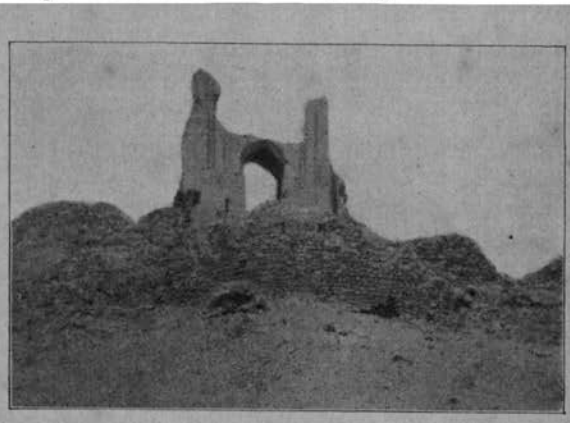
word Eldjik is Arab, its origin being perhaps due to the Arab invasion which in these regions reached as far as Samarkand. After Eldjik there is again nothing but desert with yellow drifting sands going down to the river on both banks. All oases here are, by the way, long narrow stripes of ground along the river bank, and always there is the desolate desert behind the irrigated piece of land. As long as the wind lasts, the temperature is pretty tolerable, rising rarely above 38° C.; only on getting too near the bank we immediately meet the almost insupportable burning dry wind. During the storm we met several kaiks loaded with cotton bales; by means of the comparatively small sail, like a bag, floating from the top of the mast, these boats went a fairly good rate against the current. A "Salam Aléikum" was always cried out to them from our servant on passing. The Ţurkomans had often hard work to-day with their shovels to keep us in the strongest current. On one of them not pulling hard enough the others were heard calling out: "Are you a Mussulman? are you a Turkoman?" From Eldjik we steadily drifted along deserts, until we reached the oasis of Ak-rabat where we moored in the darkness.

On the 21st of June early in the morning we went on shore in Ak-rabat, a pretty large oasis, extending far east and bordered by low sand hills covered with saxaoul and other salt-worts. The thin copse was full of caves formed by the numerous rodents which live in the desert here. One small grey desert hare and a fitchet sprang about among the bushes above which the beautiful golden starlings were sailing. The most amusing animals in the desert are decidedly the lizards which are found in large numbers from the size of a small crocodile to very small which latter were running about by legions, their tails straight in the air. Small flat-roofed clay-houses lie scattered about in the oasis among reeds, grass-tufts and cultivated fields. All the inhabitants are Turkish speaking Usbegs; in contrast to their kinsmen in the east of Central Asia they do not wear a turban, but a round-crowned sheepskin cap. They call themselves Tadjiks because the latter who make up the two thirds of the population of the town of Bokhara are more highly thought of than the less clever, less cultivated, but more natural Usbegs, but they do not understand the Tadjik dialect which is very nearly related to Persian.

On the sandy river bank there was a small aulia, a mud-house about 1 metre high, against which many old trunks of trees were placed. Inside the hut were 3 small earthenware lamps, and on

the roof of the hut were a large collection of wooden spoons. In an aulia either a prophet or a holy man is buried, or it is built in memory of some saint who is buried somewhere else, but has been adopted by the oasis as its special patron saint. At the Mahomedan festivals the inhabitants assemble to pray and sacrifice to the aulia. The wooden spoons placed on the mud-house are sacrifices offered up there. On the greater festivals sheep or cows are killed, and the lamps in the hut are lighted. Beside the aulia was a kadamgâ (means foot-print). It consisted of some hollow stumps of trees round which were placed some old trunks, and white rags waved on staffs. A kadamgâ may consist of all sorts of things and is always erected in memory of a holy man having prayed or rested there. It may be a tree, a large stone or anything else differing in appearance from common things. Both on the kadamgâ and the aulia rags were hung up with which the natives touch some sick part of their body and hang up the rag there, believing that the saint then takes away the disease. We would have bought a sheep here, but as it could not be procured, we were obliged to be content with a hen. Here we had also for the first time this year ripe grapes. We now drifted northward with a strong contrary wind, had again to go on shore to get articles of food and procured another hen and some eggs. Meat was what we were in want of. We had been told in Charjui that we could always buy sheep along the banks, but it did not prove so easy, because the inhabitants of the oases had driven their cattle together in large flocks where there was good grass on the islands. The shepherds had no right to sell the sheep, and a terrible scolding always arose from our provisionings. In the afternoon we passed by the fortress of Narkish-Kala, an old ruined stronghold. It lies close to the eastern bank and has no doubt been built here to protect the region against attacks from the population on the western bank. On both sides there are a great many forts of this kind, and many skirmishes have certainly been fought round about these castles. Towards evening the wind became light, and now we went at a flying rate along deserts, oases and sandstone brinks, passing by several kaiks with cotton from Khiva; hauled by 12—14 natives they worked their way slowly along the shore. When it was too dark to proceed further we moored at the small wood of tamarisks, Tasha-kirr, and it was not long before the boat was full of all kinds of insects; but at any rate this was preferable to being exposed to the insupportable burning wind from the desert.

On the 22th of Juni we had again a strong wind against us and did not get farther than to the oasis of Kavakly where there were large woods of tamarisk, poplar and hippophaë with a dense underwood of high grasses, the haunt of the wild boar and the home of pheasants, many pigeons, golden starlings and the parrot coloured roller which lives everywhere in Central Asia. We built a dark-room of our blankets in the wood where we could change our photographic plates. We went out for a little shooting, and our servants used their leisure to bring fire-wood together and extirpate the vermin in their caps and caftans. Owing to the constant strong wind from the north the climate was tolerable, and the temperature did not exceed 35° C.



Ruins of the castle of Kisht Kala on the Amu Darya. In the large complex there are still subterranean, cool cupolae in good repair, built up with cement, and remnants of aqueducts.

On the 23rd of June we drifted slowly along against a contrary wind. The river now contracts to 200 à 250 metres; on the western side there are small oases or grass-covered banks, but the eastern bank reflects a sandy waste which goes down to the river. We went on shore on the eastern bank to look at an old fortress enthroned on a high hill in the midst of the desert. Apparently it was quite near the bank; but nowhere are distances mistaken as in the desert owing to the intense light. After an hour's walking through the stony desert we reached the castle; there was a spontaneous vegetation of salt-worts, and we felt as in an oven with a fire round about, while the sand was burning through our boots as if it were red-hot iron. On a sandstone cliff rising to a height of some 120 metres was the crenelated circular wall of the stronghold to which there was but one entrance through a high well preserved gate with strong gate towers. The fortress is called Kisht-kala (The Brick Fort). In contrast to all other fortresses which occur in great numbers and consist of clay, this is built of bricks. Our Turkomans related that it owed its origin to Amir temir (The Iron Emir) i. e. Tamerlan; but this is the common

answer given in Central Asia regarding all that is old. This shows what an enormous part this man played, and what a remarkable character he must have been. Inside the walls there were under the ground deep cylindrical rooms once serving as dwellings in the warm season and above the ground there were many vaulted rooms used in winter. It must have been hard work to carry all these bricks out into this desolate waste, but it must have been still more difficult to procure water. On the river are still found the well preserved remnants of the subterranean brick-built canal leading from here to the middle of the fortress where extremely deep brick wells lead down to the canal. On the junction of the canal with the river there is a small fortress only consisting of one rectangular high stone wall. From here the Russians compelled the Bokharan commander to surrender by cutting off the aqueduct.

The wind subsiding a little we went at a good rate along a beautiful wood on the westerly bank, for some time we were aground in a narrow channel between an island and the bank, and on the darkness closing in we moored at the island. When rising, the moon proved to be partially eclipsed which gave Sherif a great fright as it is considered a bad omen by all Sarts. It is God who, being offended, hides the face of the moon. On the occurrence of an eclipse of the sun or the moon prayers are read in all mosques till it is over.

On the 24th of June it came on to blow a hurricane in the night which lasted throughout the day and prevented us from making any progress. The strong wind filled the air with dust to such a degree that the river often disappeared totally from view. On the eastern bank we saw the small Russian military steamer force its way against the current. We would have been glad to obtain communication with it to procure possibly some bread, as our own began to grow musty, and the bread baked by the natives in the form of pancakes is resorted to only when all else fails. The steamer being, however, too far away from us we cut our supply of Russian bread into small pieces and dried these in the sun till they were as hard as stone. We remained here throughout the day wrapped in the dust tempest without seeing anything remarkable but a shepherd who, ferrying across his sheep and goats in his long narrow kaik from the island to the bank, was overturned in the midst of the current. But he was no doubt accustomed to such things, for he remained in the kaik and threw his cattle into the

water; they saved themselves by swimming, and alone in his boat that had become full of water, he drifted along to the bank.

In the night before the 25th of June the tempest subsided, so that we could drift on. We went on shore on the left bank to buy a sheep from some Turkomans who lounged about with their herds of sheep and goats in a large wood where poplar and hippophaë rose above the dense underwood of grasses, rushes and camelthorn. The numerous dogs which these shepherds always carry with them to protect their herd rushed at us like wild animals, and we would no doubt have been obliged to fire at them if their masters had not come up immediately. More from fear of these sheep-dogs which one was always running the risk of meeting in the dense rushwoods, than from fear of wild animals we never dared to leave the boat without a gun. They even attacked our servants who wore gigantic fur-caps like the Turkoman shepherds. The Turkomans would not sell their sheep, and to get meat for our pillau we crossed the wood along the bank to shoot pigeons while the kaik followed us. We succeeded in killing a few which were the only eatable game we met with; but there were lots of rollers, the beautiful green sedge warbler, that is very like a swallow, and pastors. The pigeons, however, did not go a long way, so we drifted on to the eastern bank to the oasis of Kukertly.

Here we met some shepherds whom we first took to be Kirghiz as the yurts of the latter were seen from the sand hills of the desert, but they insisted on being Arabs whom they resembled very much, indeed. They did not speak Arab, but a Turkish dialect, the same as that spoken by our boatmen and very nearly related to Ottoman Turkish. It is highly probable that their assertion was true, as nobody knows his origin and family better than central Asiatics. An old sulky shepherd, burnt black by the sun, was at last persuaded to sell us a sheep, not indeed, until I had told him that if he would not sell it, we would take it for a payment fixed by ourselves. Then Sherif kindly added: „Now come along with the sheep! we shall pray for you many times." This mode of speech is always used here by people who want to obtain something: „Koop doa kelaman!" (I pray much for you).

Hitherto I have called our boat kaik, but our first boatman explained to me that it was too large to be called kaik, it ought to be termed gema (ship, Ottoman Turkish gemi) whereas the smaller are called kaiks. He also explained to us some other local sailor expressions. For instance, he always commanded during the

rowing: „Pull front!“ or „Cease, back!“ The front is the part turning towards Mecca and the back the opposite one. These expressions are so local that if the river had run from east to west they could not have been employed. The river here and its banks are the world of these people and although they know Samarkand by name, they had no idea what or where it was. The first boatman had observed that we never drank alcohol, he asked us whether we did not eat pork either, and on learning, that we did not, he was very glad to have such people on board his ship. We had a Yomut from Khiva with us who had been allowed to accompany the expedition as a passenger. He had been to Merv and caught a fever. We cured him with some large doses of quinine. The consequence was, however, that all our sailors found some weak point or other which they heartily wanted to have cured, especially as Sherif had told them that we had excellent medicine. During our stay at Merv he had namely himself had a severe attack of fever, and we had cured him with quinine and castor-oil. Of course, he believed now that we could cure all possible illnesses, and whenever he saw us swallow our preventive medicine against the fever, he came up to get his share, for it is awfully good, said he, although he had no other idea of it, than that if we could take it, he could as well. Having killed our sheep we drifted up to the north end of Kukertly and got ready for remaining over night here. On the bank was an old Yomut (people near Khiva?) fishing with a net. I asked him whether he had caught anything. „No“, he answered, „but I am sure that God will give me fish to night“. „Yes, he will, certainly; for just here is a very good fishing-place“. „No, it does not depend upon that“, he said, „God gives them, if he will“. Reasoning with the man whether present circumstances were favourable or not to fishing, would hardly be of any use. On asking if one will be fortunate in some thing or other, the only answer received from the natives, is: „Please God“.

The fishermen here have their net arranged in a rather practical way according to the circumstances. It is extended within a frame of four rods and may be sunk into the water by means of a rope, so that the current drifting through the net keeps it spread out like a bag. At the point of the bag is fastened a string, and holding the end of this in his hand, the fisherman can feel when there are fish in the net. When not in use the net is raised to an upright position by means of the rope. A primitive bridge consisting of a trunk of a tree, resting on shore with one end and with the

other on a trestle of bars in the river, leads out to the net. The fishing is rendered difficult by the many pieces of wood and plants carried along by the river which soon fill or tear the net.

In the evening when we lay down as usual to sleep on our blankets in the bottom of the boat we were tormented by mosquitoes to such a degree that the stay here became intolerable. We therefore let go and drifted with the current throughout the night and next day. The river contracting here to about 250 metres steadily passes along deserts or swampy oases where the Turkomans nomadize on the west side and the Kirghiz on the east one. The Kirghiz here call themselves Kasaks; but it is quite wrong, as it has been advanced by a few authors, to call the Kirghiz in Pamir Kasaks, for the latter know nothing at all of this designation. While halting in a wood to shoot pheasants some Kirghiz women with their children from the neighbouring yurts came down to the bank to talk with our men. Their appearance is more Tartar than Mongol whereas the contrary is the case with the Kirghiz in the east of Central Asia. In one respect they are all alike, namely their dirty appearance.

On our passage through the desert we visited a few yurts, like those of the other Kirghiz in Central Asia consisting of a wooden frame which is easily knocked together, and across which felt is stretched. In the middle of the felt tent is the hearth from which the smoke escapes through a wooden ring in the ceiling. We caught a specimen of the greyish snake which lives here in the desert and different sort of lizards, here reaching a length of about ¾ metre. They are not unlike small crocodiles, move along with great speed, and when surprised they daringly put themselves in a posture of defence. All along the banks there is but a short distance between ruins of old clay-castles reminiscent of the unsafe times through which the natives have lived. Several of them bear names suitable to warlike conditions, for instance, Dana-shehr (The Wise Lion); they are always built in places of the most difficult access.

We now traversed a narrow channel of a breadth of about 120 metres where the high sandstone brinks go steeply down to the river; we pass the Bokharan-Khivinian boundary where the frontier guards of these countries live in wretched clay-houses in the midst of a desert. Here is the point of Ütsh tepé (Three Hills) of which the story goes that an old giant stood here striding across the Amu Darya to fish. He took up the fish with his hands and fried them by holding them up against the sun. It is not so hot, indeed,

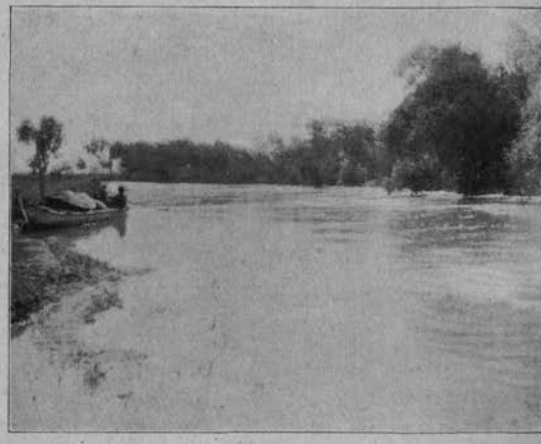
now that fish can be fried in this way, but nevertheless it was so bad at noon that the heat rendered every exertion impossible, and the temperature of the rapid river rose to about 28° C.

In the afternoon on the 27th of June it came on to blow a hurricane which forced us to moor as soon as possible. The drifting sand filled the air; in the evening the rain poured down and the lightning flashed in the horizon. Drifting along we had caught a large eagle hanging his wings on the bank and rumpled by the water. We tied the bird in our boat, and after being dried by the wind he recovered his senses. He must have fallen into the water on trying to fish and have been swept off by the current and again thrown on shore. Going northward on the 28th of June we let him fly; he did not, however, reach the bank, but fell into the water in the midst of the river. He seemed accustomed to that sort of excursion, for he held his head and tail proudly above the water rowing, so to speak, coolly along by means of his wings. After great exertions we got him safe into the boat and took him with us to Khiva. To-day we steadily drifted on past deserts or poor steppes on the eastern and marshy oases on the western bank. Some old ruins of clay-forts, the yurts of the Turkomans behind the poplar and tamarisk woods in the west and the yurts of the Kasaks in long rows on the naked sand banks in the east are what the banks reflect. We had to stop at the point of Agyar owing to the storm. Here were many gemas shipping salt that was taken down to the bank by natives on their high two-wheeled carriages (arba) from a spot, according to the natives situated at a distance of about 3 kilometres from the river. While staying here a fleet of 9 large gemas under sail were forcing their way past us against the current. One feels transported far back in time on seeing these archaic boats; the situation was not unlike the well known picture of the cruise of the Normans up the Seine. On such ships Alexander the Great perhaps sailed on the Amu Darya. He is known by the name of Iskandár by all natives in Asia, and when the latter want to prove the very old age of something they generally relate that it owes its origin to Iskandár or Amir temir (Tamerlan).

The river now widens out considerably to a breadth of about 1 kilometre, but both banks become poorer and poorer, for the most part sand banks from which the intense light, thrown back as from a plate-glass, hurts our eyes. No one but those who have lived in the yellowish grey deserts under a cloudless sky and a burning sun knows what light is. It exhilarates and stimulates, but

consequently is wearying. And nevertheless, in spite of the many drawbacks of this light and heat, I always long for these regions when I have passed some time in our own rainy, dark and misty climate. Here one feels like the butterfly floating freely in the air and at home like the larve lying in its cocoon. Towards evening we moored at the edge of a wood, but we were soon obliged to withdraw before the mosquitoes.

On the 29th of June in the morning we passed the Khivinian custom-house, a hut made of reed-mats standing close to the bank. Here we stopped, but as the native customs' officials were absent, we sailed on. The river now widens out to about 3 kilometres, and round about are fertile oases and islands the monotony of whose green masses is broken by the yellowish grey, flat-roofed clay-houses. Towards evening we moored in front of the Russian town of Petro Alexandrowsk beside a Russian transport vessel, the only thing which showed any trace of civilization. We slept as usual in the boat, but our boatmen rested under their mosquito-nets on the shore where there were lots of large spiders.

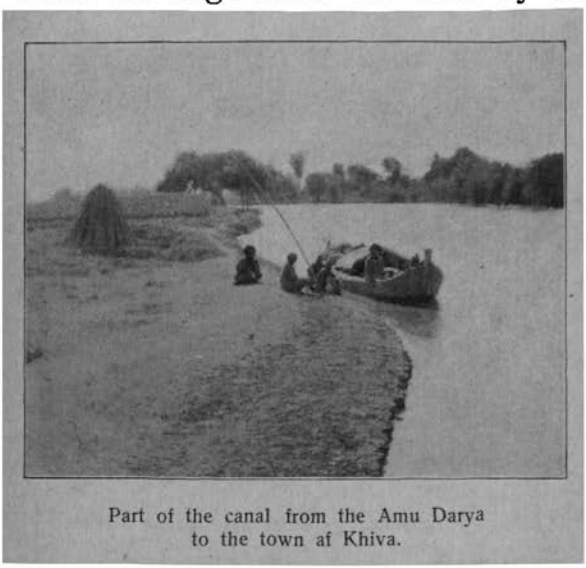


Part of the canal from the Amu Darya to Khiva, near the town of Khiva.

On the 30th of June early in the morning we sent up our cards to the District Governor in Petro Alexandrowsk, Colonel Galkin, and soon after a djigit (guide) arrived with a Sartish arba, the only public conveyance of the town which, like those commonly used by the Russians, consisted of an osier basket hanging on three bars between 4 wheels. In this basket we drove up to the colonel in our evening dresses. Fortunately the djigit first took us into a house which the colonel had left at our disposal, and here we brushed off a good deal of the loess dust in which we had been enveloped during the 6 kilometres we had covered from the river to the town. The colonel, a sort of Governor of the district to the south of the Aral and at the same time political agent to the Khan of Khiva, received us very kindly com-

municating that the Khan had made preparations for our staying in his town. We passed the night at the colonel's together with some officers, and the day after we attended a small soirée in the company of the officers of the garrison and their ladies in the Sobranja where we had music from the military band.

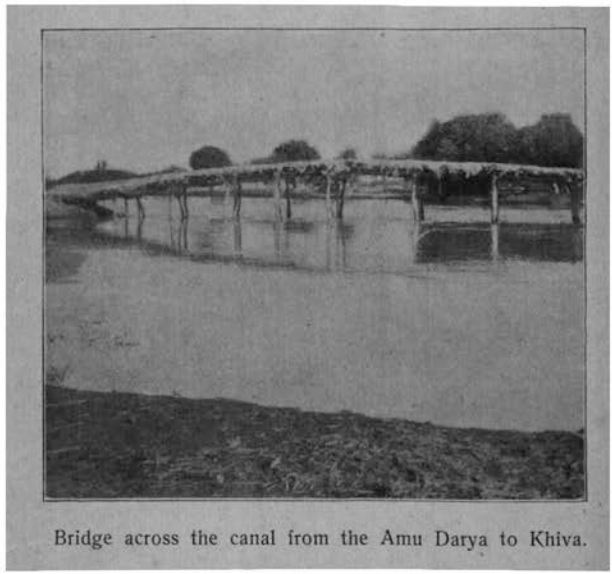
Petro Alexandrowsk is a totally Russian town situated in a very fertile and well irrigated oasis at a distance of about 2 kilometres from the bank of the Amu Darya. Two large canals, called arik or yâp by the natives, lead the water from the river into the oasis. From the large canals the water by means of mills is led through the smaller ditches into the fields. These mills known by the natives from time immemorial are turned by horses, camels or oxen; these are seen everywhere on the large canals going steadily round in a circle in the shade of large willows or poplars. A large vertically placed wooden wheel, whose felly is furnished all over with earthenware jugs, is put in motion by means of toothed wheels. On moving round the vessels raise the water from the lower situated arik and pour it into a wooden trough standing on the ground. Water is never wanting as, for instance, in Bokhara and other oases in Turkestan, as the Amu Darya is always able to yield a sufficient amount, and as the soil consists of the fertile loess where plants are called forth as if by magic, if there is only plenty of water, Petro Alexandrowsk is one of the most luxuriant oases I have seen in Central Asia. The farms of the natives surrounded by the high clay-walls look, indeed, more well-to-do than in the other parts of Turkestan. The streets in the town are like those in other Central Asiatic towns fringed by trees which afford excellent shade against the burning sun; in many places they form a real wilderness from which is heard the song of numerous nightingales.



Part of the canal from the Amu Darya to the town af Khiva.

The town has about 3000 inhabitants. Its garrison consists of

1 battalion of infantry and 1 regiment of Cossacks. Formerly there were two battalions of infantry, but one of them was a short time ago removed to the Afghan frontier near the town of Patta-gusar. In the middle of a large, open place is the little church of the town, and in this neighbourhood the District Governor lives in a house which before the arrival of the Russians in 1873 belonged to the Khivinian Beg residing here as the Governor of the Khan of Khiva. A native Khivinian consul who lives in Petro Alexandrowsk leads the negatiations with the Khan who governs the internal affairs of his country independently, having power of life and limb over his subjects. The inhabitants bathe much in the large ariks, and ladies are seen swimming unconcernedly about in the dirty yellow water. Owing to the heat, which is said to be specially oppressive when the east wind blows from the sand desert of Kizil Kum, everyone sleeps in the open air under mosquito-nets. Delicious grapes, peaches, apricots, apples and melons grow in the oasis. The district physician, Mr. Kumberg, on whom we called, stated that the fever was not so bad here — the opposite would be more probable, judging from the appearance of the oasis —, that there were no scorpions, and that nearly all the natives (Usbegs) were affected with veneric diseases. The town has some Russian storehouses and a post- and telegraph-office. In its immediate precincts live some Ural Cossack families who were relegated hither in 1876.



Bridge across the canal from the Amu Darya to Khiva.

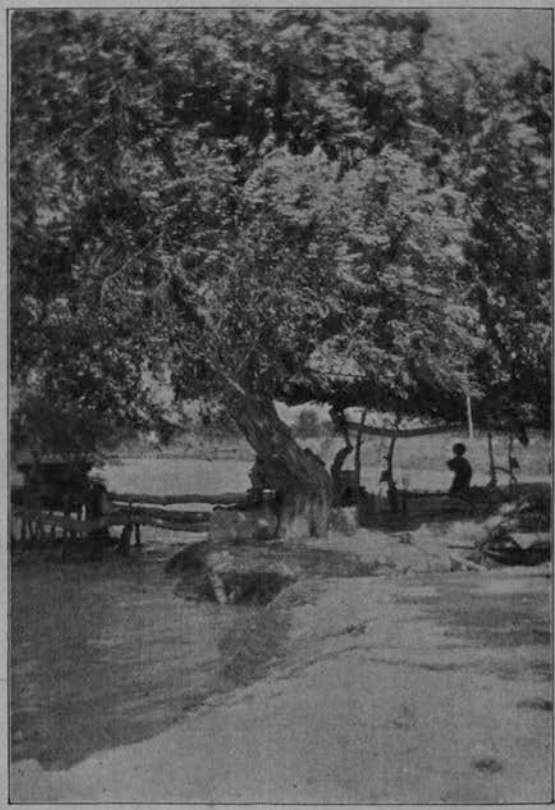
On the 2nd of July we left the town in the middle of the day in a smaller gema which Colonel Galkin had procured, as our boatmen thought that the large boat would not be able to pass the canal that leads to Khiva from the Amu Darya. A Khivinian djigit had joined us and accompanied us in the boat. A strong wind from the north-west brought on a pleasant coolness during our crossing the river which is often so low that we had to be hauled

across the sand banks by the boatmen wading in a row, one behind the other. After reaching the left bank we ran into a canal that waters the oasis as far as Khiva. At first it is only about 20—25 metres broad. Its course is even and rapid, and on its banks are kishlaks, small groves and fertile corn-fields. Large herds of cows, donkeys, dromedaries and camels stand about along the banks where the shepherds pass some hours of the day in fishing with nets and hooks. The clay-houses often stood on the bank itself, and in the shade of the trees horses, camels, cows or donkeys go round in a circle driving the curious water-mills whose creaking is the most typical sound heard along the canal. In some places Kirghiz in their felt yurts live among the Usbegs; among themselves the latter are always called Ösbag after their ancestor. Towards evening we stopped in front of a bridge and not to be run into we hauled the boat into a side-canal, went on shore and laid down to sleep on our blankets under a tree. The place was called Durghaidik.

Water-wheel for the irrigation of the fields in Khiva. The current drives the wheel, raising the water in the earthenware pots placed slantingly aslope. From the wooden pipe the water runs out into the ditches in the field.

On the 3rd of July we rose early as usual, the sun preventing us from sleeping any more. There was a beautiful view here. The yellowish grey, well kept clay-walls of the kishlaks went sheer down to the bank. The women in their red dresses with kerchiefs on their heads sat on the bank washing or resting beneath the shadow of the trees with their small children. The Usbegs dressed in brownish red caftans and high fur-caps galloped about on their arbas; a crowd of riders crossed at full speed the primitive wooden bridge forming an arch across the canal and covered with reeds and clay.

The water-mills were in motion everywhere, the cattle were being driven out from the town by the common shepherd, and round about on the fertile ground vines wound round the clay-houses which were overshadowed by mulberry- and apricot-trees. Looking up the canal we saw through a tunnel of willows, poplars and mulberry-trees from which the women fled on our passing by, but the men came down to the bank crying out a Salam Aléikum to us. We passed some other bridges of the same kind as the first one, and at one of them is a kadamgâ, a cubical clay-building, crowned by a small cupola above which white rags waved on staffs. In the grove, where this kadamgâ is, the saint Hazreti Palvân-Ata has rested. He is the patron saint of Khiva and in one night he built the canal which is 100 kilometres long.



Part of the large canal from the Amu Darya to Khiva. To the left is seen the wheel of irrigation.

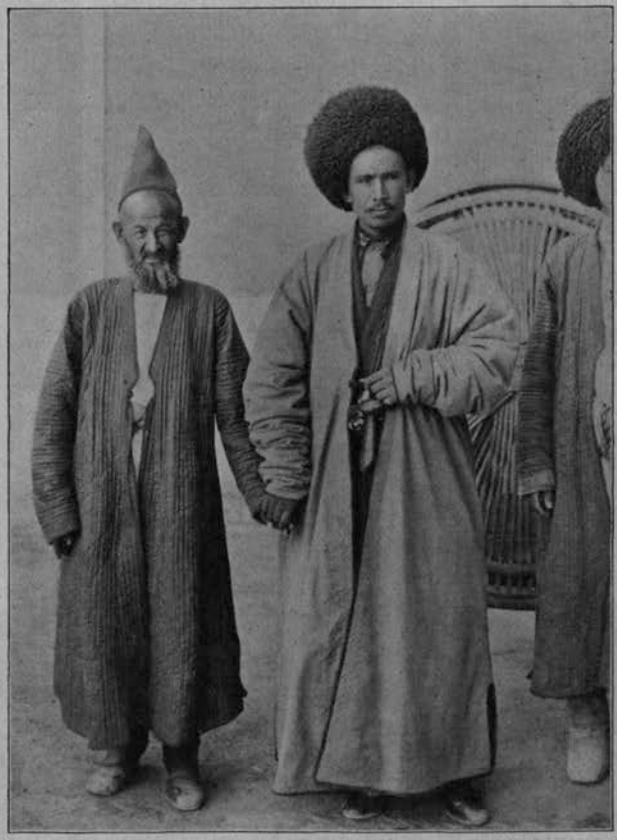
After eating our pillau under the shade of a mulberry-tree we now drifted through the numerous windings of the canal between villages and copses to the next arched bridge where our Khivinian djigit asked us to stop to take a cup of tea at his colleague's, the overseer of a neighbouring clay-palace, which belongs to the Khan. The gardens of the palace are watered by an engine that comes near to a perpetual motion, namely a mill-wheel kept going by the current in the canal and at the same time raising the water in the above named earthenware jugs. The next 6 kilometres we advanced were through a stretch of poor woodless steppes. The canal whose waters had become absorbed to a great extent by the numerous side-canals was so narrow now that two boats could

hardly pass by each other. It was the finest piece of road we had travelled over in Central Asia; a more splendid and idyllic waterway is hardly to be found than this canal covered by a roof of leaves.

In the afternoon a Khivinian official came on board to welcome us before our arrival at the town. He wore the usual Khivinian dress and was armed with sabre and dagger, holding in his hand a battle-axe with silver handle. The same sort of parade axe is also in use in Bokhara. On the Emir riding through the town of Bokhara, the supreme police officer in the city (Mirshab) walks in front of the procession with the axe. In the darkness of night, while the fever stench rose from the rice-fields on the bank, we stopped where a small phaëton and two arbas waited for us. Amidst much scolding the baggage was loaded on the arbas, and we had a break-neck drive across fields and ariks and through narrow lanes where a single tallow-candle was lighted here and there in a dukhan (shop); and at last we stopped at a large clay-palace with a spacious yard where we were received by a stout Khivinian official, the son of the Divambegi of Khiva (Prime Minister), who invited us to be his guests during our stay in Khiva. We had a short talk with the Khivinian, had a glass of tea and went to sleep in good European beds, being under no apprehensions lest we should be molested in this place, formerly such a notorious thieves' nest.

The son of the Khiva Divambegi, Sardar Bey, in Russian uniform (he had the rank of a captain-lieutenant) (sous-capitaine).

The next morning the two sons of the Divambegi arrived, Mahommed Bey and Sardar Bey; upon the former who had received us in the evening the rank and distinctions of a Russian captain-lieutenant had been conferred by Czar Nicolas. They were accompanied by a Nogai (from Krim) who was appointed terdjuman (interpreter) to the Khan. The Nogai who wore a large fur-cap like the other Khivinians, because he was in the service of the Khan, spoke Russian fluently. He had come along to act as interpreter, but was surprised by hearing that we ferenghi (foreigners) spoke better Turkish than Russian, a fact simply due to our always associating with the natives on our travels.



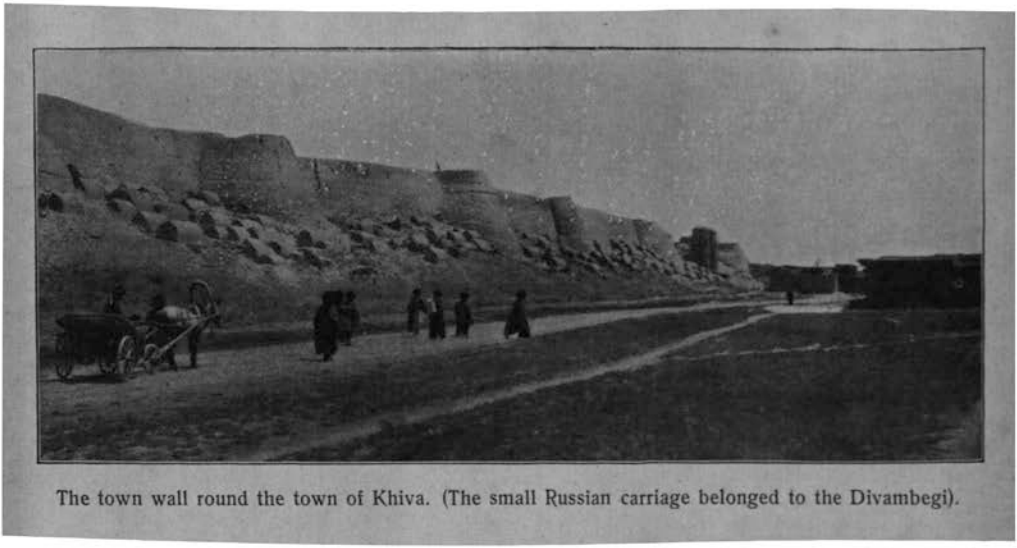
Two Khivinians. The pointed kalapush worn by the man to the left is now and then used in Khiva under the fur-cap elsewhere they wear the same kind of cap as in Bokhara.

The two Khivinians took much interest in Europe, knowing a great deal of the people of this part of the world and their institutions, even of the Peace Congress in La Hague. During our stay in Khiva these three had a talk with us nearly every day. In contradistinction from the Bokharan officials who are drowned in mere etiquette it is a pleasure to speak with the straight-forward and natural Khivinians.

The Usbegs of which race are all townspeople in Khiva take up an intermediate position between the uncivilized nomads, Kirghiz and Turkomans, and the refined Bokhara people of whom a great deal are Tadjiks. The upper classes in Khiva, the educated

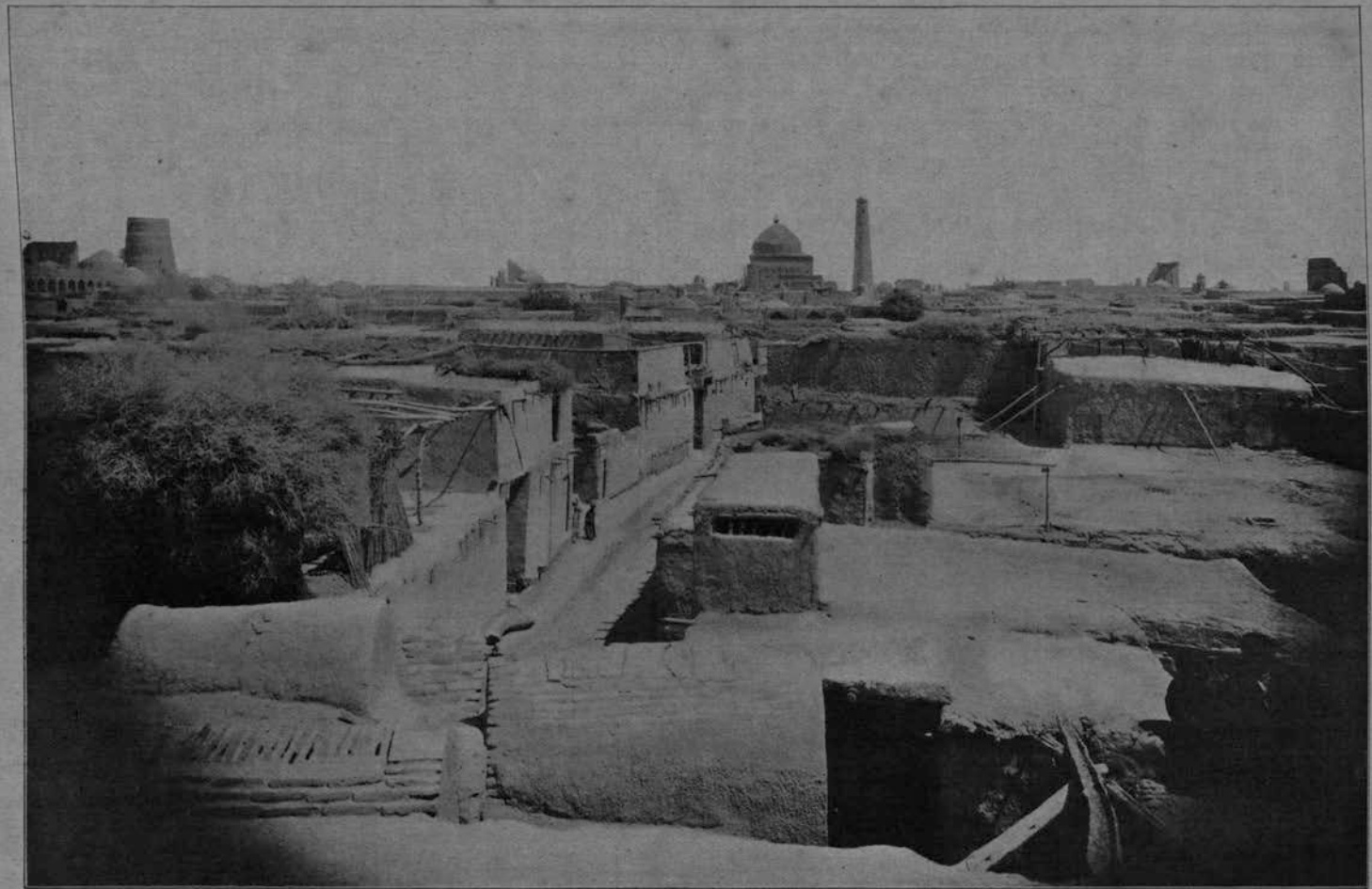
people, if they may be termed so, try to pick up the practical and reasonable reforms from Europe, whereas Bokhara people are more inclined to what one might call humbug.

In the afternoon the Divambegi of Khiva, Mahommed or Mahommad Murad Divambegi paid us a visit; he is universally said by everyone to possess the greater part of the country of Khiva, whereas the Khan himself is said to be less wealthy. He also brought along with him his Russian interpreter, but was obliged to put up with our somewhat broken Turkish conversation. The 72 year old man in his brownish red don (caftan) and with the large brown sheep-



The town wall round the town of Khiva. (The small Russian carriage belonged to the Divambegi).

skin cap on his head resembled a veritable old brigands' chief, which he has certainly been, but owing to the frowns of fortune he must now keep quiet. He told us of the many fights against Bokhara in which he had taken part, making a significant gesture to show, how one then employed bows to shoot with. Before the Russians had conquered Central Asia, Bokhara and Khiva had perpetual contests with each other, and even now they do not agree. Khiva was steadily worried by the rapacious Tekke-Turkomans (He-goat Turkomans) who from Merv and the deserts south of Khiva made continual assaults on the walls of this town. „Later on we had rifles, indeed," went on the Divambegi, „and on the arrival of the Russians we had the same sort of guns as those which Napoleon carried against Moscou". The current belief that the Aral lake did not exist at some remote time was confirmed by the Divambegi who reported that it was said in Khiva that when Jen-



Outlook from the town wall across the town of Khiva towards the north. In the foreground tombs situated on the slope of the wall.

ghis Khan came hither with his Kalmuks in the 13th century, the depression where the Aral lake is now situated, was inhabited by the Aral people, and then there was a large town here, Adak. When the old minister had learned who we were, and what we wanted, he drove off in his small Russian phaëton followed by a large attendance of Khivinians, who with their large fur-caps looked like a real escort of the guard.

Later on we returned his visit. He lived near us in a large extensive clay-building, such as are seen all round here, surrounded by a large well watered orchard. Most of the rooms in his house were carpeted, but otherwise empty; but 3 small rooms he had by the help of the interpreter of the Khan, the Nogai Agiev, furnished totally in European style with chairs, tables, curtains and hangings. While taking tea and eating preserved fruits with us, the old man sat in his easy-chair, as if he had always been accustomed to rest in this way. Only the large fur-cap looked curious in the European surroundings. It is interesting to see the deference everywhere shown by Asiatics towards their fathers, which I have now observed in many places. When we came up to the Divambegi, he was not in, and until his arrival his eldest son did the honours. As soon as the father appeared, the son disappeared with a bow into the anteroom where he remained during our visit.

The day after the Divambegi had called upon us we had an audience of the Khan. At 5 o'clock in the afternoon we were fetched in the carriages of the Divambegi, each day left at our disposal; the Khivinian djigit, who served as our guide in the town during our stay here, led the way, and we drowe up to the palace, that was encircled by a very high clay-wall, through the narrow streets filled with loess dust. In a small anterior court under the shade of an apricot-tree was the old Divambegi sitting on a felt carpet. By the help of a short silver cane he rose and bid us take a seat on some reed-chairs put up there for the purpose. From here we could see through an endless series of rooms, all with simple yellow clay-walls where many of the attendants of the Khan armed with scimitars and daggers ran about as in an ant-hill. All were dressed in the brownish red don, and a stranger would be unable to see any difference between the various ranks of courtiers.

After waiting some minutes we were told that the Khan was ready to receive us, and the Divambegi now took us through many empty rooms, only decorated with many sabres and daggers han-

ging on the walls, and where the Khivinians formed a row. We believed that we should at last be admitted into the prince's presence in a hall set out with beautiful carpets and painted columns, but having passed a large room laid with cement where slender poplars grew up through an opening in the roof and flowering neria stood in large groups, we went out into a large and splendid garden. The Divambegi made a significant gesture as if to say: "There he is". And if he had not called our attention to the man, we would not have thought him to be the Khan of Kharezm or Khaverism (the name of the regions south of the Aral lake and along the banks of the Amu Darya).

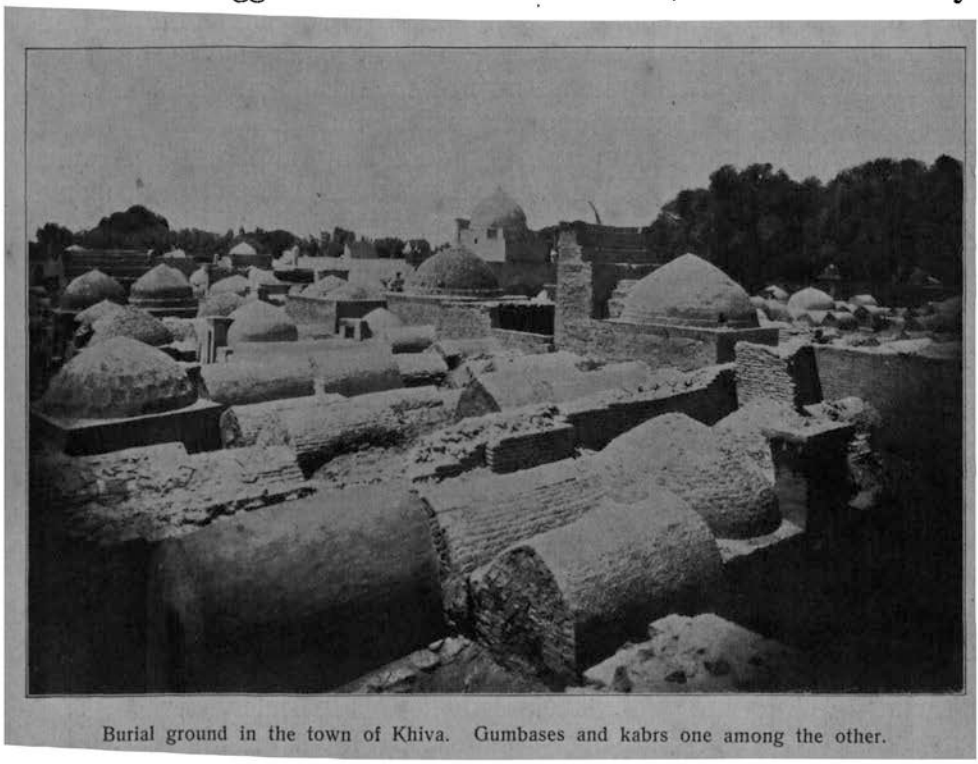
On a small clay-platform by the high clay-wall that encircles the palace the Khan was resting on a common felt carpet, such as is in the possession of even the poorest man in Khiva, his elbow leaning upon a leather cushion. He wore neither jewels nor arms, only a simple, brown- and blue-striped don and a high sheep-skin cap. At the foot of the platform were a score of beautiful stallions tied to their mangers. He bid us sit down, we did not know immediately where, for it seems somewhat strange to galla dressed or dress-coated people to sit down on the bare ground; but there was nothing else to do. Out of regard to my uniform I sat down on the felt carpet beside him. The conversation principally turned upon our country about whose physiognomy be questioned us, and what our business was in Khiva. He proved to have a pretty good knowledge of Europe and was anxious to learn what practical things could be obtained from Denmark. He seemed to be somewhat shy, he spoke gravely and in short sentences. He is of a real Usbegic, somewhat coarse type, about the middle height with grey beard, only 54 years old, but looking a little older. He has reigned in Khiva for 36 years and is said by all who know him to be very sympathetic, and to take a great interest in the reforms of his country and in his subjects who number 800000. He is a Russian general of honour and decorated with high Russian orders. He governs in person, and all public works that have to be executed are submitted to him. He often superintends the performance of the works to the minutest details. He is the supreme judge of the country, and all lawsuits are settled by him; in the forenoon and afternoon he passes some hours in his harem which is said to consist of 60 women. The rest of the time is spent in government affairs.

After talking with us for some time, steadily without interpreter,

he made one of his men show us about his beautiful, extensive garden where there was a luxuriant abundance of peaches, grapes, apricots and apples. All round among the trees there were small ariks, and even fine flower groups were not lacking. It was exceedingly well kept in contradistinction from the gardens in Bokhara and Turkestan which are often more like wildernesses than gardens. The general impression conveyed by Khiva is that all, houses, farms, ariks and gardens are in a better condition than elsewhere in Central Asia. After looking at the garden, we again talked for some minutes with Seït Mahommed-Rahim-Bahadur Khan, which is his name. He was still lying on his felt carpet surrounded by his chief courtiers who sat on the ground about him, and of course, he did not rise on our taking leave of him, as this would disparage him in the eyes of his subjects. From the Khan we drove to his son, the heir apparent, who lived in a smaller clay-palace. He received us in the same way as his father, lying on a carpet on a clay-platform facing the garden, and leaning his elbows on a leather cushion. He is a tall, pale man with a thin moustache and of a somewhat jewish appearance, 27 years old and the fourth son of the Khan. His name is Seït Esfendier tura. The conversation with him principally turned upon the Peace Congress in La Hague of which he knew a great deal, and what he said on the whole indicated considerable intelligence. The Usbegic race to which the present Khan belongs has only reigned in Khiva during this century; before them the Kirghiz (Kasaks) with their Khans had occupied this territory, whereas the Usbegs were separated in smaller societies governed by Beys who resided in the towns of Kona Urgendtsh, Kungrad and several towns south of the Aral. Kona Urgendtsh (Old Urgendtsh) is the sacred town of the Khivinians, and after this town the country here is always called Urgendtsh by all natives in Bokhara and Turkestan.

If one wants to remember a town, it is important to gain a survey of the place from a good point of view, and this is still more necessary in Central Asia where the ground with its oases and steppes is almost quite flat. Therefore one day we mounted the highest minaret of the town (Uzun Minar = Long Minaret) that is about 40 metres high, and from which the whole town and oasis can be surveyed. From here one looks down upon many flat clay-roofs, down into narrow labyrinths of streets winding round in the ant-hill. Above these rise 5—6 minarets, about 30—40 metres high, and several smaller which stand out above the roofs only a few

metres. Everywhere are seen large and small dome-shaped buildings, covered with green and blue encrusted tiles; these are the so-called gumbases which contain some aulia (saint's tomb). Like other greater towns in Central Asia Khiva has many saints, and all around white or coloured rags are seen waving on staffs erected on these gumbases to point out the sacredness of the spot. It looks as if Khiva were flagged on account of a festival, one sees so many



Burial ground in the town of Khiva. Gumbases and kabrs one among the other.

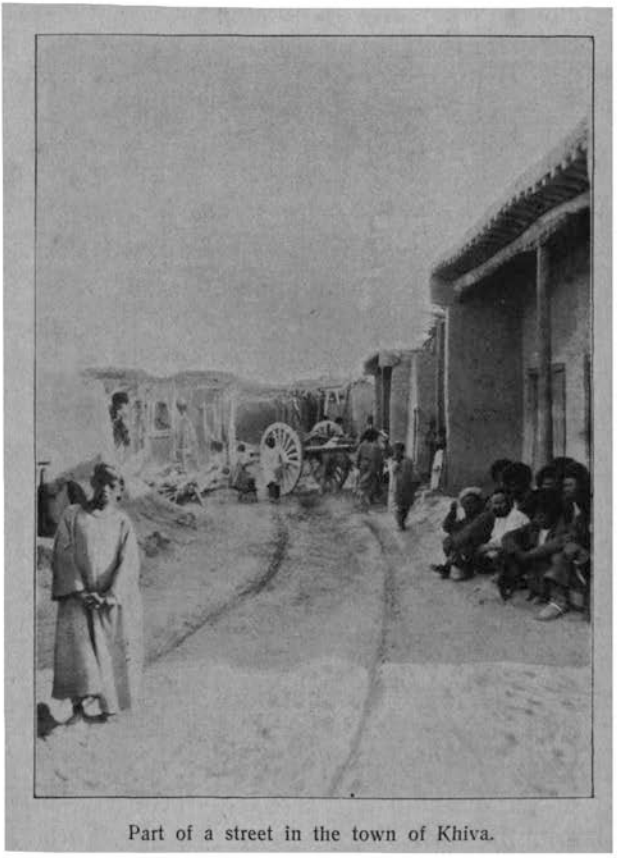
saints' colours (allam). The central part of the town with the palaces, mosques (mashit), medresses, and bazar of the Khan is surrounded by a high crenelated wall, made of loess, with numerous bastions. This quarter is again divided into two parts by a partition-wall to the north of which is the winter residence of the Khan above which rises a high square watch-tower. In this réduit the Khan took refuge in troubled times, and here he has his dwellings, store-rooms, harem and a mosque. In the southern part of the inner quarter are a large collection of medresses and mashits above which rises the glazed tile cupola of Hazreti-Palwân Ata and the half-finished, barrel formed minaret of Mahommad Amin

Bahadur Khan. This inner well-preserved wall has one gate facing each of the four quarters of the globe; these gates are defended by two towers built of bricks. The gate towards the north is called Baghtshe darvasa (The Garden Road), that towards the east Palwân darvasa (The Giant Road) and the western gate Ata darvasa (The Fathers' Road). Outside the inner wall is a lower wall that has fallen down in many places. Between the inner and outer wall are groups of clay-houses, open places, the so-called maidans employed for fairs, and stinking, rush-grown pools.

Outside the outer wall towards the north are seen nothing but luxuriant high poplars and fruit-trees, but southwards there is only a narrow stripe of oasis bordered by the terrible Transcaspian desert of Kara Kum, the yellow tufts of which peep forth behind the green trees. Both on the outer and inner side of the inner wall the Khivinian tombs are stowed away as on shelves, often reaching the very top of the wall; a sarcophagus of pointed structure forms a small house above the tomb that is built on the ground or above some other tomb. Several of these tombs have tumbled down, so that the skeletons are seen inside them. When a tomb has fallen down, the Khivinians say that the dead man has been an evil person. God himself has destroyed his tomb and taken away some of his bones, so that he cannot rise on the Day of Judgment. The whole territory outside the outer wall is divided into squares encircled by high clay-walls from which the trees project as flowers in a vase. Each house is a small fortress whose gate is barred at night. All suggests the great fertility of the oasis and one tanab of land costs about 650 sh. near the town. 1 Tanab = 60 □ paces. Farther north the price sinks to 55 sh. the tanab.

We walk down into the town which contains about 15000 inhabitants, all Usbegs; there are also a few of Persian descent brought hither at some remote time as slaves. We pass through a maze of narrow lanes where there is just room for one carriage. As in all towns in Central Asia the streets are unpaved and rough, so that every moment one expects the carriage to be upset in the middle of the street, and dense clouds of the fine loess dust arise between the yellowish grey clay-walls. If one meets one of the arbas of the natives, it is obliged to retire into a side-street before one can drive on. But the road-traffic is not so great as, for instance, at Bokhara where a street is often blocked half a day by loaded arbas. A few Usbegs are seen on their horses or donkeys; small children, half or

quite naked, lie outside the houses raking up the dust; a woman in red peeps out through a half-open door or passes us, her yellowish grey, long linen cloak (farandjé) drawn up over her head and a thick black horse-hair's veil over her face. A good many pretty women are seen here, and in Khiva they are not so afraid of drawing aside the veil as at Bokhara. Many remain at their work outside the house unveiled, enjoying the sensation of being observed, but their morals are said to be very lax, indeed. The younger unmarried women are always dressed in red, wearing on their heads a small cap (doppé) with a tuft of owl's feathers. The owl's feathers keep off the evil spirits which according to the Khivinians float in the air in great numbers. The evil spirit Alvasti is most feared. Alvasti, a corruption of the word of Ormuzd, the God of light in the doctrine of Zoroaster, has here degenerated into an evil spirit in the form of an old woman. One night during our stay in Khiva the Khivinian who kept watch in the yard came up to us to ask our servant Sherif to sleep with him in the yard, there being lots of spirits out there whom he feared very much. The old women always wear a bluish dress and often walk about unveiled. Women that are beauties, when 14—16 years old, look like old hags at the age of 20.



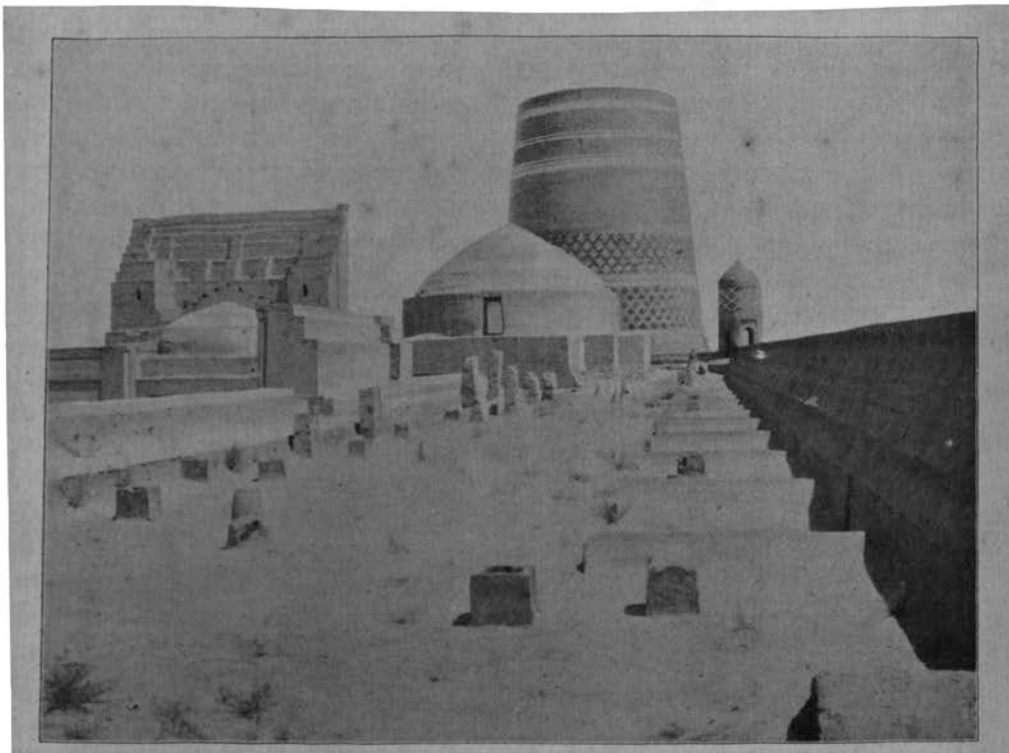
Part of a street in the town of Khiva.

Almost in the middle of the town is the bazar that is but small. From a small serai only consisting of a few gloomy brick vaults radiate some short rhastas (covered street) and the business transacted at them is chiefly concerned with Russian stuffs, tea, Russian

porcellain and common necessities of life. Original products are good heavy silks which cannot easily be used in Europe as they are woven in short pieces, each of which is differently coloured. In the whole bazar it is, by the way, not easy to find two pieces alike. The manufacture of silk is said to be rather important at present, cultivation of cotton, plays, however, the more prominent part. The bazar is supplied with many good carpets by the Yomuts who nomadize south and west of Khiva. The best carpets in the world are said to be the Tekinian from Merv, woven by the Turkoman tribe of Tekins; those of the Yomuts come after these in quality and then those of the Kirghiz. This classification is at any rate the adequate one in Central Asia where I have had opportunity of seeing thousands of these carpets. Those who have not seen the real Tekinian silk carpets, have still something to live for. The beautiful patterns and the fine juxtaposition of colours and splendid workmanship are a great delight to the eyes.

The bazar is quiet, trade is slight, there is nothing of the jabbering and chaffering of Bokhara. The Usbegs sit silent in their small dukhans (stall) where they have just room enough to sit on a small carpet amidst their small store of goods. While standing to look over the little stall of a bookseller the bazar suddenly seemed to start into life; people rushed about, many hiding away. "The Raïs is coming". Here as in Bokhara the Raïs is the terror of all. He is a high ecclesiastical official under whom range also various secular charges. He sees that all streets, houses, stalls, bridges, balances and measures are in order, but it is also his duty to see that the inhabitants know their Mahomedan prayers which they learn by heart in the Arab language in their childhood and of which they do not generally understand one word. Now and then he attacks a man, whom he meets by chance, and makes him repeat the prayers; if he does not know them, a certain amount of lashes are inflicted upon him on the spot by the followers of the Raïs, and then he is sent to school to regain his lost knowledge. Often he must even pay a penalty. The Raïs does not know of other punishments than penalties and flogging. The Raïs also sees that the coin is not clipped or debased; for small pieces are often clipped off silver and gold coins. Khiva has its own coinage system. 1 tilla (small gold coin) = 9 tengi. 1 tengi (silver) = 32 pul (copper). Most coins in the market are from the time of Mahommad Amin Bahadur and are better stamped than the newer. Gold-money is rarely seen. Russian money is also received by the

great merchants; like the Turkomans they call the ruble manat (from the Russian moneta). In Bokhara the Raïs passes through the streets wearing a dress embroidered with gold and riding on a horse decked with a large gold saddle-cloth and tassels and followed by a large attendance. In Khiva the Raïs in contradistinction to a common well-to-do Khivinian has a colossal white turban



Outlook across the roof on the medresse of Mahommad Amin Bahadur Khan in the town of Khiva.

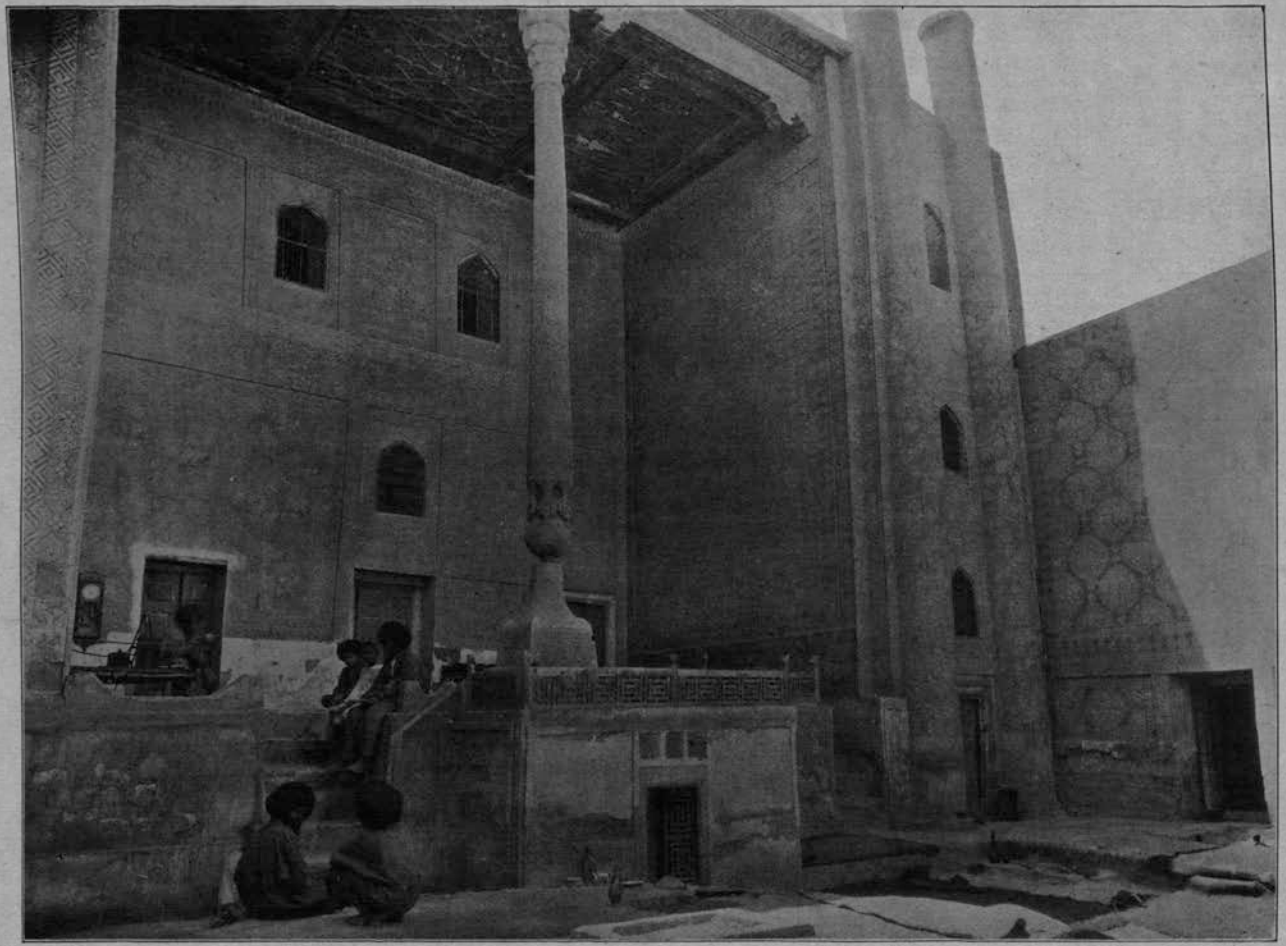
wound round his fur-cap. It must be a disagreeable head covering here where the average temperature during our stay was + 40° C.

Apart from the bazar, generally called the serai, there is a fair every Monday and Thursday on a maidan (flat open place) inside the walls. Here a large complex of small clay-dukhans are built together where the streets like those of the serai are covered with mats. Each branch of business has its own small street. The fruit-dealers in particular are well represented at this time of the year; from their high arbas they sell melons, grapes, peaches and apples at a very cheap price. At the best melon period, at the end of July, a large melon costs about half a farthing. A large basket

full of delicious large grapes costs about one penny according to the price agreed upon with the seller, for fixed prices are not known, and when a foreigner asks the price of a melon, the Khivinian may perhaps demand 25 times its real price. But this is everywhere the case with all Orientals. It may also happen in the towns of Central Asia that the Mussulman will not sell anything at all to the foreigner, because he is not a Mussulman. On the maidan the brown, white and black curled sheep-skins of which Usbegs, Kirghiz and Turkomans make their high fur-caps, are a great article. Saddlers, tea-dealers, copper-smiths, carpet-dealers and goldsmiths have their speciál quarters. The maidan is wrapped in dense clouds of loess dust, mixed with the stench of boiling fat from the chai-khanéhs (tea-houses) where the natives take their primitive meals. When the warm east wind blows across the maidan, it is almost intolerable here. Among the numerous riders and arbas on the market a small singing procession winds, consisting of 6—8 natives, all with pointed camel wool caps and a calabash hanging in a string round their arm. They have also many other curious things, for instance an old battle-ax, an iron spear, a stick with bone rings or such like. These are the singing calandars, commonly known under the name of singing dervishes, the latter being, however, of another kind. Calandars are mendicant friars.

If a man wants to become a calandar he reports himself to the so-called calandar-bâbâ (grandfather of the calandars). In continual prayers he now performs service for some months at the saints' tombs as a sort of watch, and if he proves to be fit for becoming a monk, he receives from the calandar-bâbâ a dress consisting in a pointed cap, a black rope to be twisted round his head, a camel hair shirt, a broad belt and a calabash (dried melon) in which he collects gifts. The calandars live by themselves in a small serai on the outskirts of the town, beside which is the so-called mussafir-khanáh or khanéh where arriving ishans (ecclesiastics renowned for their holiness) enjoy hospitality. The calandars live in celibacy and are only allowed to support life by beggary. Every evening they take home the gifts received to their superintendent. Many of these calandars are insane, as the latter are highly esteemed by the Mahomedans here.

They believe namely that God has removed the sense i. e. the soul to heaven, and that only the mortal frame walks about on earth. The subject-matter of the songs of the calandars is always religious, and they are often rather melodious. The dervishes (dar-

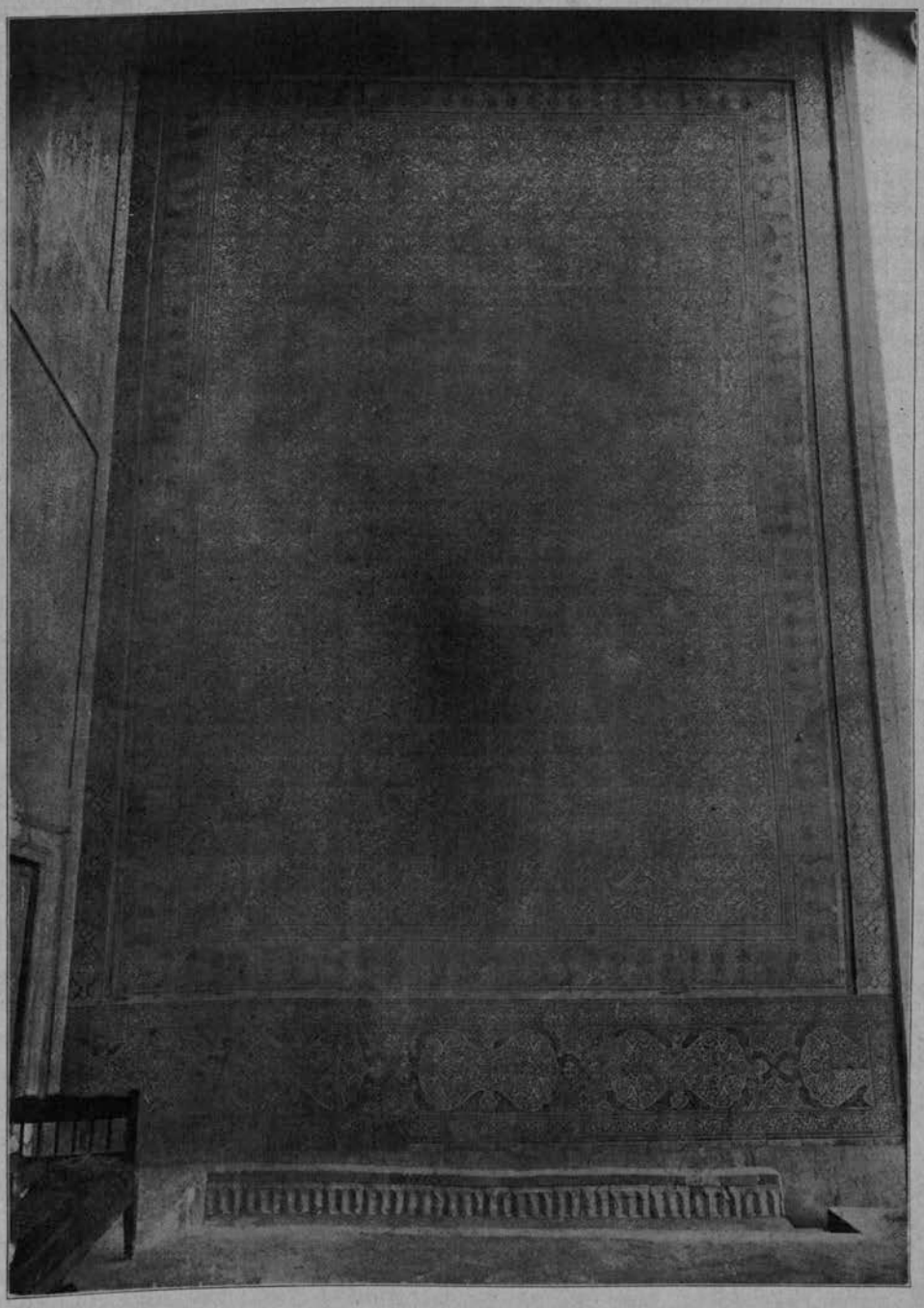


Tash-havly (the stone-house), covered all over with majolica, white figures on blue ground.

vish) are another and even more rigorous sect of mendicant friars. They are always seen singly and their body is only covered by a panther or tiger skin; their head is protected from the sun by long, floating black hair and in their hand they carry a large club. They are often seen in Bokhara where they pass the night at holy tombs, especially those of the prophets, but there being no prophets' tombs in Khiva they are not found here. All make a wild, crazy appearance. Every native who meets a calandar or dervish immediately gives him a mite.

Some mosques and medresses in Khiva are monumental buildings. The mosques, in Central Asia called mashit, are here very unpretending. The largest one is Mashit-i-Kalan (The Large Mashit) only consisting of a simple mud-building whose flat roof is supported on carved wooden columns. On the floor are grass-mats on which the natives during prayer spread their devotional carpets or in want of a carpet the long piece of cloth which they always wear round their waists over their don. On an elevated stand, a lathe resting on four pillars, the higher ecclesiastics kneel down. From this mashit a door leads into the winding stairs of the long minaret. All buildings worth seeing inside the inner wall of Khiva are grouped round "Uzun Minar". The only mashit specially adorned is the mashit of the Khan. It was built by Allah-kul-Khan in the form of a veranda with simple wooden columns, but the walls are everywhere coated with beautiful white and blue, encrusted tiles with flowered Persian patternes. The glazed tiles which ornament mashits and mosques in all the towns of Central Asia are among the main relics from by-gone centuries. Otherwise everything was from time immemorial as now built of clay which collapsed after a very short time leaving nothing but an elevation in the territory for the investigator. It was my task here to examine these encrusted tiles whose fellows I had seen already in most of the towns of Turkestan. I could enumerate each place where this ornament is found, but shall only mention a few localities, as this subject will be treated on elsewhere. They occur in the larger medresses, among which I name here those of Mahommad Amin Bahadur Khan, Mohammad Nias Divambegi and of the present Khan Seït Mahommad Rehim or Rahim Khan, as decorations in white and blue, flowered patterns above the pointed arches of the entrance porches and all along the roofs of the interior of the medresse.

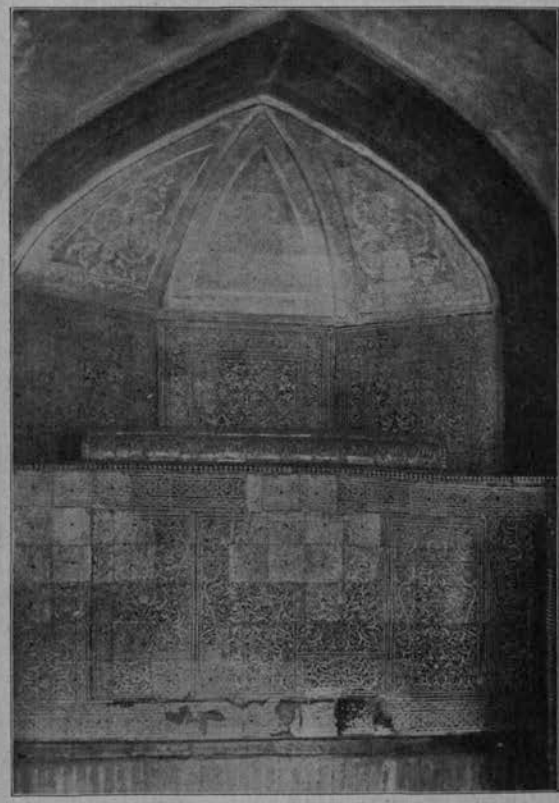
The largest medresse is the first named which would look well, if it were freely exposed to view, but as in other Asiatic towns



A wall of majolica (white figures on blue ground) at Tash-havly.

nothing is allowed to stand on an open place. All is crammed and crowded together, the Asiatics being in the habit of placing their stalls against the walls of a mosque or medresse as soon as it has been finished. Using the strong wall as support, they have soon a small booth made, generally consisting only of a small roof of mats supported on some stems of trees rammed down. Through a narrow alley between some dirty booths we ascend a small mound, and now the beautiful porch of the medresse adorned with encrusted tiles stands before us. The porch rising high above the building is flanked by lower wings whose pointed arches form niches in the wall almost up to the roof. The corners of the building are set with small, thimble formed towers, all covered with glazed tiles; the latter look so pretty in the intense sun-shine which lights up every crevice. To the left of the porch is an isolated, barrel formed tower, about 30 metres high, everywhere covered with encrusted tiles in blue and green. It was intended to have been higher, but was never finished. This tower, Uzun Minar and the cupola of Hazreti-Palwân Ata are the only buildings in Khiva visible from without above the inner wall, about 15 metres high and with its contents commanding the oasis. Through the vaults of the large porch resting on built pillars we enter a yard of a size of about 70 metres square and encircled by 4 wings of the same structure with pointed niches and in the middle of the niches the doors of the many small rooms. Above all the niches are ornaments of encrusted tiles and in the middle of the yard a small well whose water is saline, as it is in all wells here that are not springs. The medresse has 125 rooms inhabited by about 280 mullah-aspirants. The medresses are the highest Mahomedan schools in which all spiritual and secular officials are educated. The principal subjects taught here are religion, writing and arithmetic; sometimes a little history and mathematics. The Koran is learned by heart in Arab, but they do not learn the language; nevertheless on entering a medresse the mullah-aspirants are often heard babbling the Arab language from all the rooms of the building. In Europe the word mullah is often supposed to mean the same as ecclesiastic, but this is by no means the case. A mullah may be a clergyman, but as well a merchant, a boatman on the Amu Darya or follow any other line of occupation. Mullah is a man who is able to read writing and print in the language of the country; mirza is a man capable of reading and writing his own language. Mullahs are few in number, mirzas still fewer. The mullah-asiprants often spend

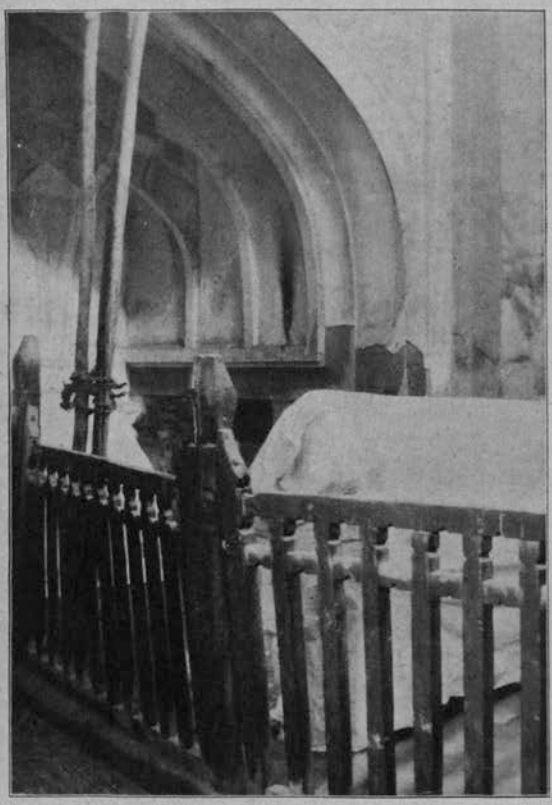
several years in the medresses and on leaving them they have acquired more or less knowledge, as occasion requires. Their rooms, small and square, are furnished with as little comfort as possible; a small carpet to sleep on, a kungan (copper mug) in which they warm their tea and a small earthenware vessel make up the whole furniture. In a corner of the room on a grass-mat are seen a few books, a little paper, ink and some reed-pens, and as a rule the walls are all covered with scraps on which prayers are written. Other larger medresses are those of Allah-Kul-Khan, Kutluk-Murad-Inâk, Muhammad-Murad-Divambegi and Rahim-Kul-Khan; all are decorated with glazed tiles. Besides those named here there are several smaller, and, whether large or small, their form is always the same.



Ibrahim Khosha's sepulchral chamber at Khiva. In the foreground the rectangular kabr covered with majolica; the upper part is pointed. The niche in the sepulchral chamber is like the sarcophagus covered with splendid majolica in white and blue designs.

The finest and most interesting building in Khiva is the saint's tomb (aulia) Hazreti Palwân (The Holy Giant) from which numerous, triangular saints' flags of all colours wave on top of the greenish cupola. Through a common clay-porch one enters an open anterior court where a small range of flagstones leads through a pointed gate, ornamented with glazed tiles and above which lots of horns of oxen (sign of strength) are placed, and now we are in the anterior sepulchral chamber where the vault and walls are glazed; not one piece is wanting; the beautifully designed, conventionally composed white flowers and spiral stems make a brilliant effect on the blue ground. Opposite to the door in a sarcophagus of encrusted tiles Maderim Khan

is buried. To the left of this sarcophagus (kabr) are on a stone-platform two tombstones hewn in a kind of black marble ornamented all over with flowered carvings in Persian style. These stones are said to come from the mountains north of Petro Alexandrowsk. I presume that Nurata north of the town of Kermineh in Bokhara is meant here. Here lie the Khan Abdul-Ghasé-Khan and Ana-Ysha-Khan. The tombs are said to be 300 years old, but the statements of the mullahs are not to be relied upon, as the aulia itself is said to have been built by Allah-Kul-Khan (1821—40). It is, however, possible that this Khan has replaced a previous building with a more beautiful new one. To the left of the entrance a finely carved wooden door leads into a gloomy vaulted chamber where a sheik (lower ecclesiastics watching and praying at the saints' tombs) lies on a small felt carpet. He lies here all his life long watching the entrance of the saint's tomb in order to gain eternal happiness. Much persuasion and the promise of silou (tips) makes him draw aside a curtain. We are allowed to look through the door where a large sarcophagus with a gold-embroidered carpet is seen in the gloomy dusk. The sheik lifted up the carpet so that we could take a view of the beautiful sarcophagus built of glazed tiles, below which the patron saint of Khiva or Khivak is buried. The sheik told us that Hazreti-Palwân had lived 726 years ago; he was so holy that when his only son had been killed in the war, God touched by the father's earnest prayers restored him to life again. Apart from Hazreti Palwân there



Saint's sepulchral chamber of Khiva. On the staffs to the left ox-tails. To the right is seen the pointed kabr, covered with white cotton.

is another building, the so-called Tash-havly (The Stone House) the walls, verandas and rooms of which are glazed all over. All these handsome buildings are kept in repair even to-day which is not the case with such old monuments in the rest of Central Asia; here the latter are either ruined, or their glazed tiles, falling down by degrees, have been replaced by clay.

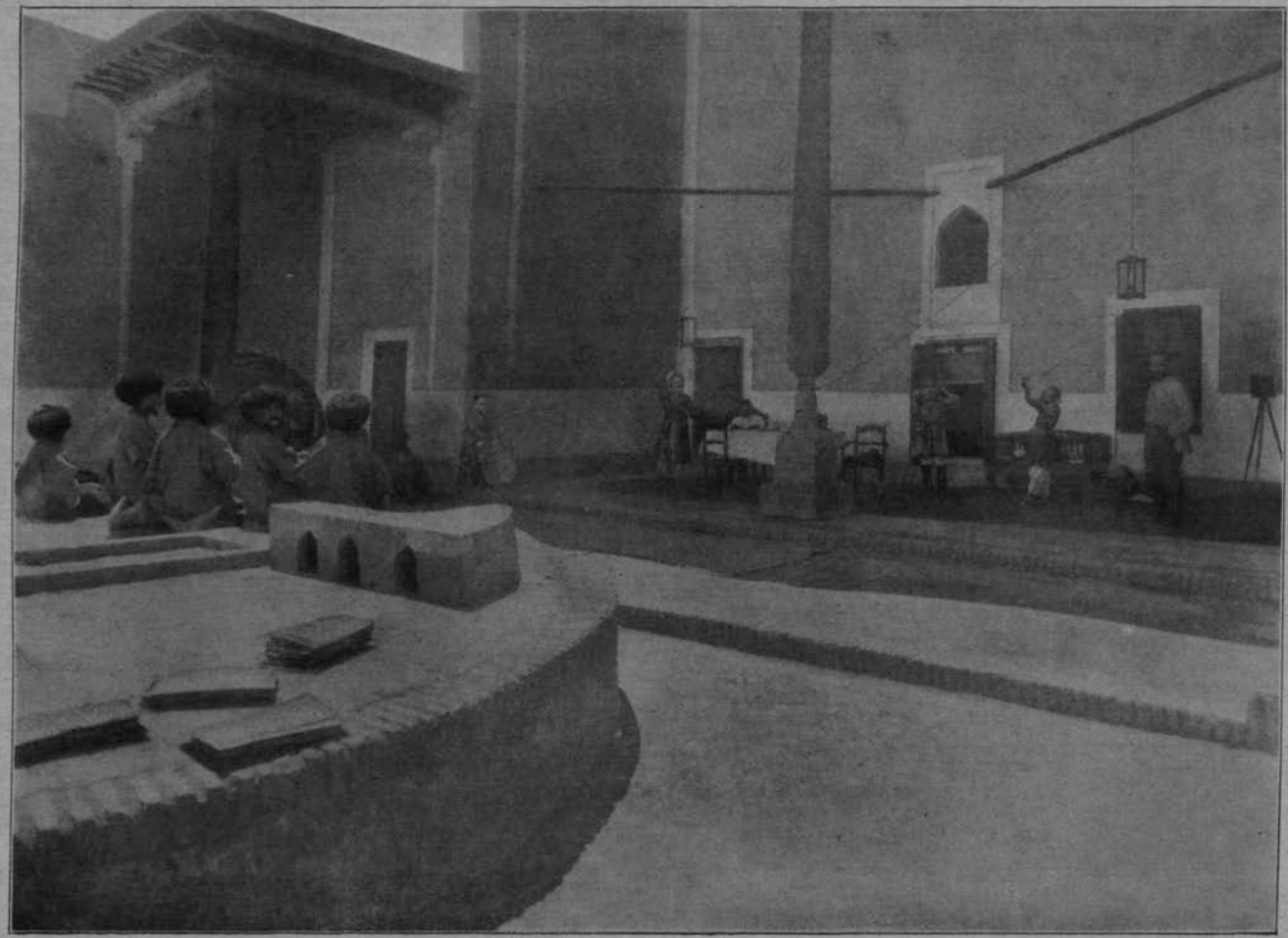
The numerous palaces of the Khan were remarkable for being devoid of nearly all decorations. They are extensive, flat-roofed, two-storied mud-structures built in a kind of pavilion style with many verandas; the carved wooden columns together with the carved wooden doors are the only attempt at artistic ornamentation. All are surrounded by large well irrigated gardens with small ponds and magnificent fruit-trees. At the northern outskirt of Khivak, as Khiva is called by the natives, the Khan has built a large sepulchral chamber where his own sarcophagus of encrusted tiles is ready for him. A friend of his, a former Divambegi, is buried in a sarcophagus beside that of the Khan. Apart from this sepulchral chamber within a high stone-wall a great number of partly empty tombs are ready to receive those of the wives and children of the Khan who may depart this life at a not very distant day, perhaps at his own order, for he is not scrupulous about executions. While staying here he ordered a young man to be hanged who had stolen some apricots in his son's garden. By chance we saw the criminal on visiting the prison one day, a small room with lattice windows out-

The old blind late Divambegi in Khiva to whom we paid a visit.

side which a Khivinian was on guard. The young man was fettered with iron rings round his neck, hands and feet. On the numerous burial grounds where the pointed arches of the sarcophagi (kabr) are stowed away as on shelves, many tombs are empty. For it is a common practice that a man, while alive, has his tomb built. The tiles at one end of the sarcophagus are loose and are easily taken out so that the body in its white shroud can immediately be put in after being carried hither on the bier covered with blue cloth and supported on the strong shoulders of the sun-burnt Usbegs.

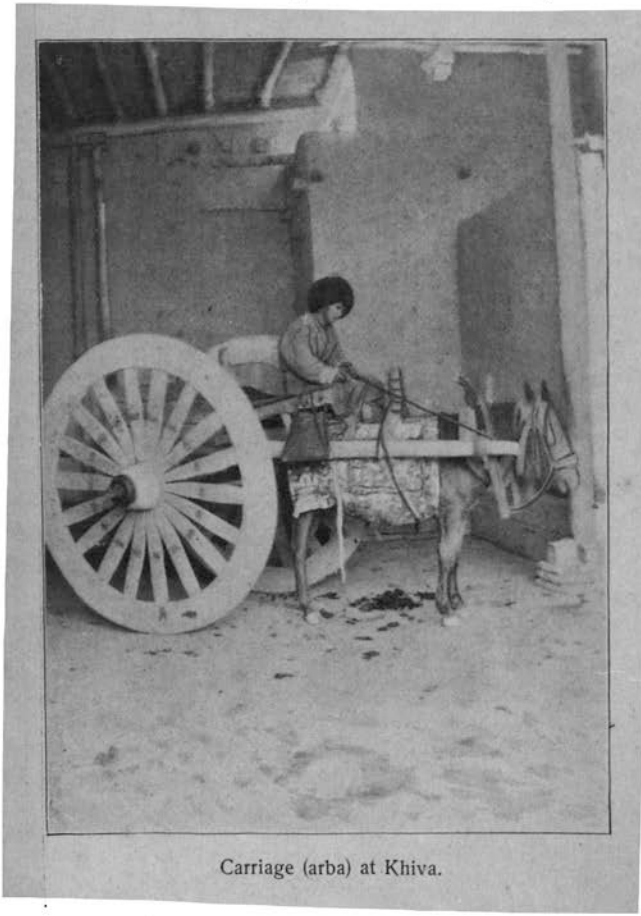
During our stay in Khiva we were always entertained by the Divambegi. There was not much variation, every day the same dishes; soup, pillau, a kind of fried forcemeat balls filled with chopped onions besides melons, grapes and peaches. We spent much time under the shade of the high veranda, for as a rule it was impossible to be out of doors from 10 o'clock in the forenoon until 4 o'clock in the afternoon. By degrees we grew accustomed, like the Mussulmans to remain immovable on the same spot without doing anything at all, not even thinking. While longing for the coolness of the evening or the refreshment of a faint breath of wind, one was grateful to the numerous falcons which chased the pigeons in the air, or the grasshoppers whose wings glittered in the sun for the change produced with no bodily or mental exertion on our part. The air was always dry and filled with loess dust. Once or twice we were surprised by some drops of rain, a rare thing here at this time of the year. In the morning and evening the yard was sprinkled over with water by an old water carrier tripping about from yard to yard. All that we wanted to see and that could possibly be transported was brought to us. On my expressing the wish of possessing some encrusted tiles, the latter were immediately brought at the order of the Khan together with many sketches of the designs of these tiles. Weapons and carpets were brought into the yard that we could see the productions of Khiva.

One evening the Khan diverted us by sending 3 musicians and 4 dancing-boys. Two of the musicians played on the clarinet (surnai), and one beat the tamburine. While dancing the boys used two flat stones as castanets which together with the slow monotonous melodies of the shrieking clarinets produced an infernal noise. In a mystical lamp-light the boys (oindjé) performed various dances accompanied by pantomimic gestures with their arms, threw



The Batshas of the Khan of Khiva dancing for us at the palace where we lived in the town of Khiva.

somersaults and made high jumps on the spread out felt carpets to the great pleasure of the Mussulmans sitting about us on the ground. Most of the dance was of an obscene character, and the boys behaved entirely as if they were women. The front part of their heads was shaven, and at the nape of the neck the hair was dressed in a long ringlet, giving them the appearance of females. All Begs and well-to-do people have as a rule one or several of these dancing-boys who often pass among them as a sort of merchandise. The value of a good dancing-boy is about 300 sh.

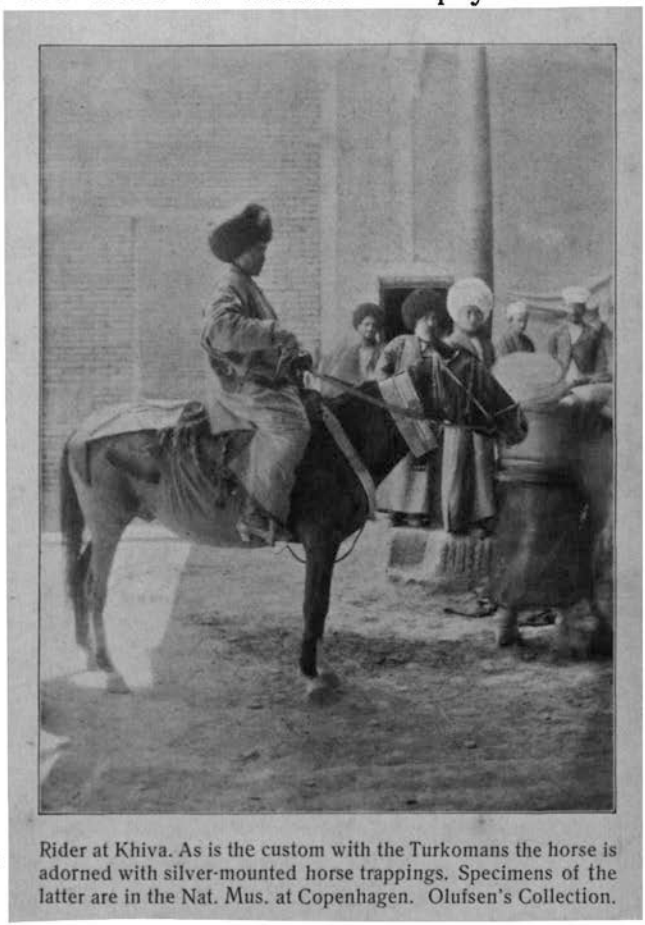


Carriage (arba) at Khiva.

Before leaving Khiva we paid a farewell visit to the Khan and his son, the heir apparent, who received us in their gardens as the time before. The son and I agreed upon meeting the next year at the Paris Exhibition, and both the Khan and his son presented us with beautiful, gold-embroidered, red and motley, Khivinian silk-dresses and carpets in memory of our visit.

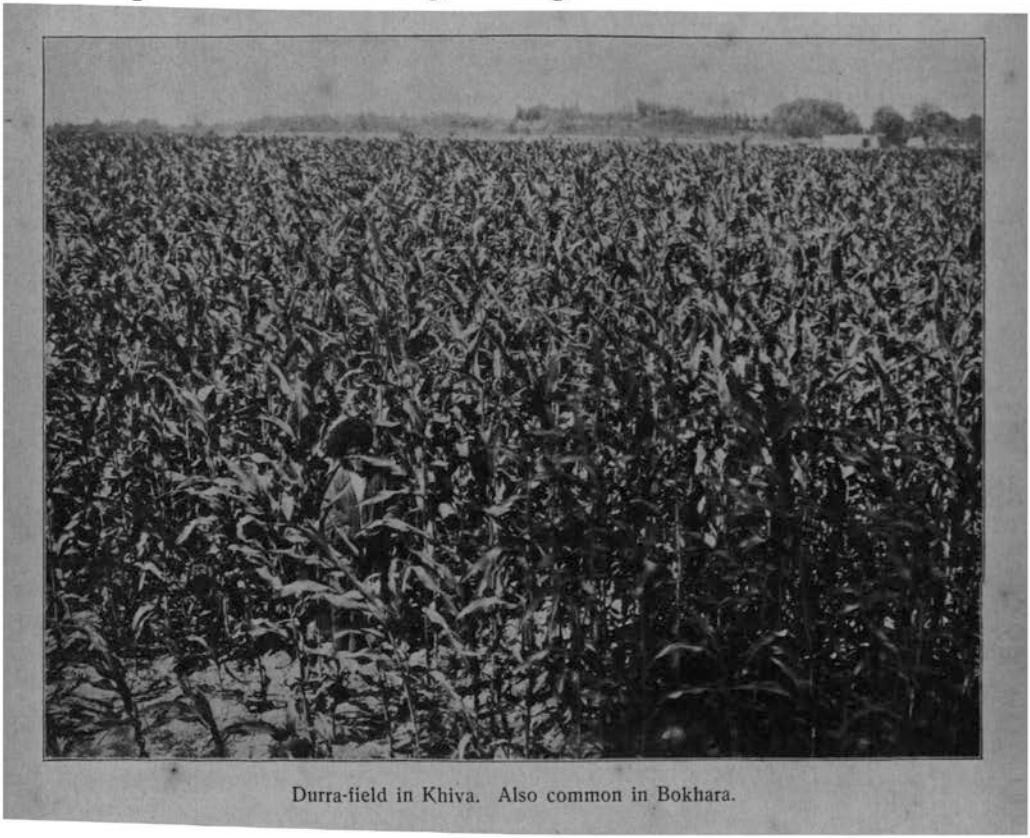
Early in the morning on the 21st of July two arbas started with our baggage towards Urgendtsh. The old Divambegi and his two sons appeared to take leave of us. The Divambegi provided us with letters to the Begs we should pass on our way, and who would procure lodgings for us. We drove ourselves in two spring-tarantasses that the Divambegi had lent us. Two riding djigits, armed with scimitars, went in front of the procession to examine whether roads and bridges across ariks were passable. Before getting outside the walls of the town we were obliged to make a halt

at the old blind Divambegi, Palwân Murad, now bearing the title of Mirzabâshi of the Khan. The old man who lived in a large clay-building served the usual ziyafat (festival) to us consisting of pillau and enormous lots of meat and fat soup. He continually spoke of his lost sight and asked us whether the physicians in Paris were better than their colleagues in Stambul. We advised the old man, no doubt suffering from a cataract, to go to Paris with the heir apparent. At his desire I photographed him with all his daggers, sabre and Russian orders and promised to send him a specimen. He presented us with a loaf of white sugar, a case of sugar-candy and some pieces of silk. At length we drove out through the old high clay-walls, through the old iron-studded wooden gate upon which the axes of the Turkomans have often thundered, out into the charming well watered oasis where all is green, all divided into squares, where there is a luxuriant growth of rice (shale), durra (djuaré), lucerne (jyrindsha), melons (kaun), hemp (kendir), tabacco (tamaki) and cotton (châvatshe), and where all the ariks are fringed by poplars and djigda behind whose leafage the squares of the high yellow mud-walls peep forth. In the kishlaks numerous allam (saints' colours) wave on top of gumbases and mazars; children in yellow dresses, half-grown girls in red, and grown-up women with black veils over their faces relieve the monotony of greyish yellow and green colours. The road is terrible owing to the rough loess now as hard



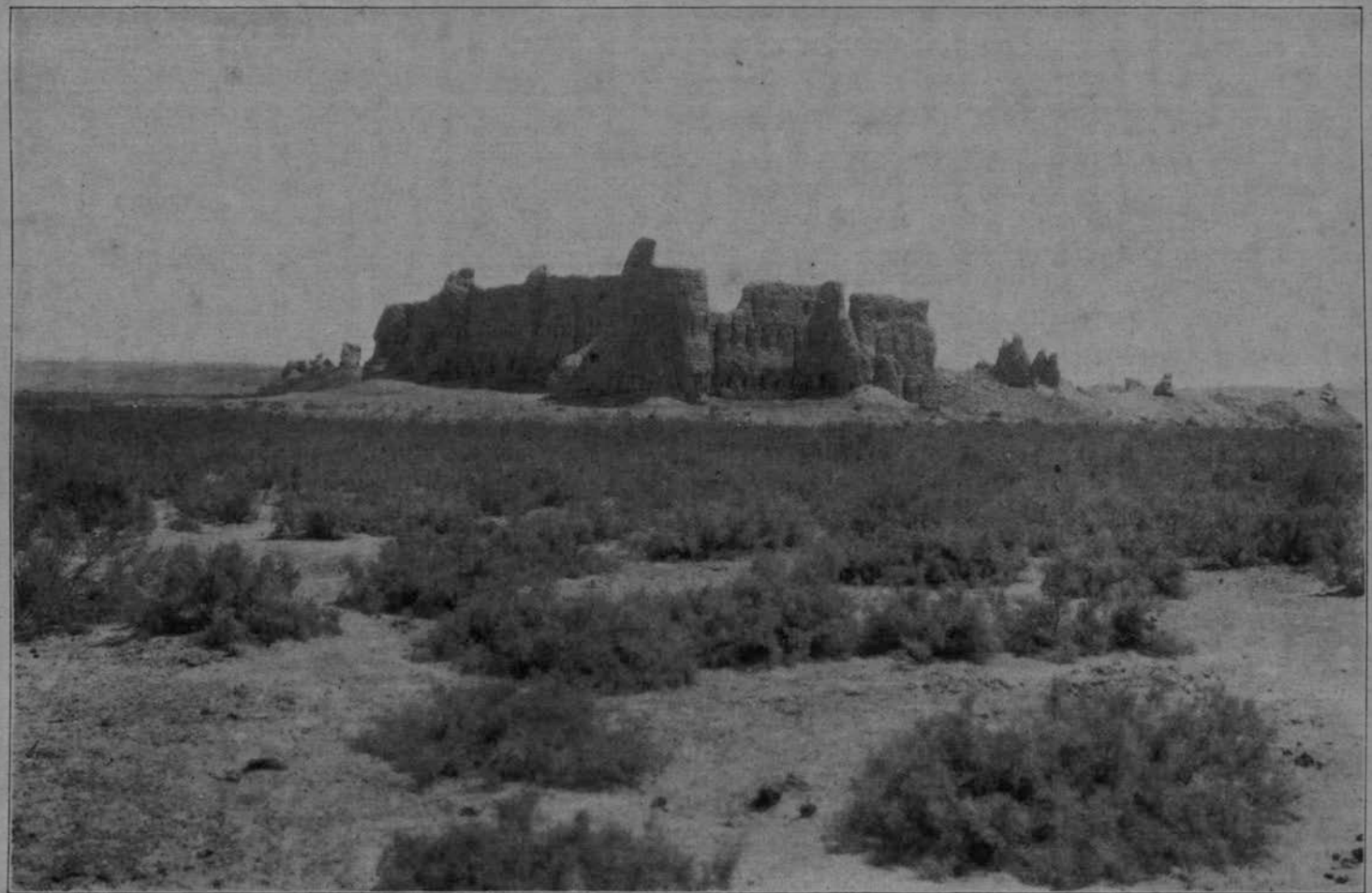
Rider at Khiva. As is the custom with the Turkomans the horse is adorned with silver-mounted horse trappings. Specimens of the latter are in the Nat. Mus. at Copenhagen. Olufsen's Collection.

as stone, and at every moment one expects the carriage to be upset. The wind is burning hot, and often the whole scenery is hidden to our eyes by the dust. A funeral procession followed by women and children is waiting on a hill where there are numerous clay-tombs. In a marshy pond beside there is plenty of stilt plovers strutting about on their long, red legs.



Durra-field in Khiva. Also common in Bokhara.

In the fortified market-place of Karaman we stopped to take tea in a chai-khanéh, eagerly gaped at by the numerous frequenters of the fair here bartering with sheep, horses, donkeys and woven goods. We traverse a narrow arched bridge, built by the natives across a broad arik, and enter a small desert belt where we must descend and wade through the hot sand which forms high banks here. We are soon in the oasis of Urgendtsh. One of our djigits rides in front of us to procure quarters, and the tarantasses rumble into a large gloomy clay-building where the resident Beg assigns lodgings to us beneath the shadow of a large veran-



Ruins of the castle of Giaur Kala south of the mountains of Sultan-bâbâ on the right bank of the Amu Darya. In the foreground tamarisks.

da facing his small garden. As it was our intention to proceed on our journey immediately, the Beg produced the boatmen who should sail us northward. We bargained with the old boatman for the payment which after much discussion went down from 80 to 24 sh. Before lying down to rest beneath our mosquito-nets, we had a short walk through the town of Urgendtsh (Tasa-Urgendtsh as it is called); it was just beside the house of the Beg. Like the usual clay-towns with a small bazar it contains no curiosities; there are about 6000 inhabitants and the town is encircled by a high crenelated wall with conical bastions, all buildings made of loess. In the precincts there is a considerable cotton cultivation.

On the 22nd of July we bought six fowls, some vegetables, rice and butter from the Beg, and now we drove on in our carriages to the river bank. The Beg with his son and djigits saw us off on the arik where our gema was ready. Soon in the midst of the Amu Darya the burning heat and dust of the land was exchanged for the pleasant coolness of a dustless, brisk wind. Fresh, green banks on both sides. Broad, low foreshores grown with low tamarisks where large herds of cows and donkeys were grazing. But we had not advanced many kilometres northward when the strong north-east wind forced us to stop. We were still sleeping beneath our mosquito-nets, and our cocks were trying to outdo one another in crowing when our boatmen sailed on with us. The banks are continually monotonous, green and refreshing to the eye. Low and entirely flat foreshores covered with tamarisk, high tufts of grass and camelthorn extend about 4 miles into the country. Large swarms of grasshoppers rising from the tufts fly like dense flakes of snow across the river. In the horizon we see large black clouds consisting of the same animals Quantities of terns, rooks and falcons fly about shrieking. The river is here about $1^1/_2$ kilometre broad and full of ridges of sand where the terns perch in long rows. When we wanted to take our meals we went on shore, made a fire-place of earth which the boatmen were accustomed to, and Sherif prepared our usual pillau in the large copper-cauldron. Now and then a ragged fellow from a neighbouring mat hut came down to have a talk with us. On the river the heat was not very trying, for here the incessant north-east wind had full play. At sunset a wonderful calmness fell upon the landscape; no sound was heard, the river was smooth as a mirror, and the boat drifted noiselessly as fast as the current ran. About half an hour after sunset the surface of the river was again faintly rippled, the yellow disk

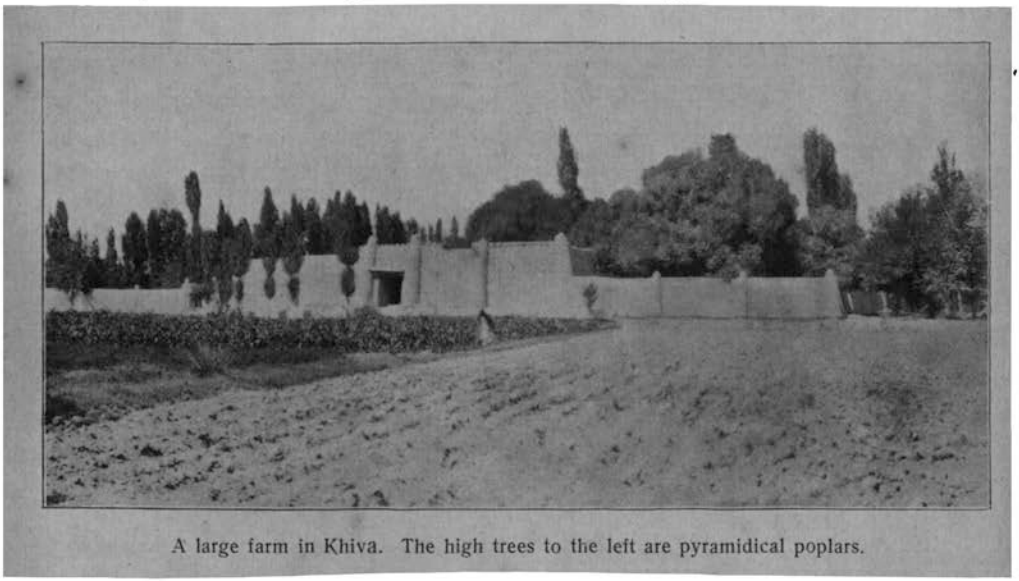
Our gema (ship) on the left bank of the Amu Darya opposite to Giaur Kala.

of the full moon rose from the water throwing a magic light across the curled waters of this river which from the westerly part of Pamir makes a way for itself through desolate deserts and enables millions of people to find their food on its banks.

On the 24th of July we again drifted on northward at a flying rate. Towards the east the banks are fringed by extensive woods (togais); behind them grin the dreaded yellow sand banks; towards the west we see the oases behind the green foreshore. We pass the large ruins of Giaur Kala (The Infidels' Castle) south of the mountains of Sultan-bâbâ. The two-storied high clay-walls and towers are still kept in pretty good repair. Looking from the north down towards this castle one has a Cronenburg view in miniature. We pass by several ferries (gusar) where the natives, living on the bank in a mat house, ferry people across for a few pul. We now drift on betveen the mountains of Sultan-bâbâ (The Grandfather of the Sultans) which rise above the flat landscape quite unexpectedly. Towards the west low hills, they become towards the east little extensive slate mountains attaining a height of about 600 metres and running steeply down to the bank. We stopped on the east bank amidst the tamarisks and ascended to the top of the slate mountains where the disintegrating action had produced the must curious formations. From here there is a magnificent view across the oases south of the Aral lake. Wide flat stretches grown with fertile green, many trees shading the compact masses of clay-squares, which indicate the villages, and all round the whole scenery the yellow desert border. Proceeding farther north we see small towns on both river banks; to the right the wretched mud-villages (auls) of the Kirghiz and to the left the kishlaks of the Usbegs surrounded by fertile fields where grows the high durra resembling maize. The villages lie close to the river, and in several places the water penetrating into the houses has destroyed many of these, so that the walls stand in water half-way up or hang ruinous over the river.

We pass the town of Kiptjak where the walls like those of a small sea-port go sheer down into the water. Round about on the bank gemas and kaiks are being built. In the town the half-part of which consists of Kirghiz yurts is a small bazar. North-east of Kiptjak on the eastern bank is a large medresse in a desolate place encircled by ditches near the river where the mullah-aspirants study the Koran withdrawn from the noise of the world. Close by the medresse on a high bank is a small fortress, only consisting of a

high circular mud-wall. This is a Kafir-Kala (Infidels' Castle) probably built by the Kalmuks who in the 12th century overran these regions under the command of Jenghis Khan. The east bank is now fringed by an extensive, dense border of forests where in the evening the howling of the jackals is heard and where there are magnificent specimens of tigers. The west bank chiefly consists of tamarisk steppes the monotony of which is relieved by a fairly high ridge of hills dotted over with the pointed arches of the sepulchral clay-monuments and the round cupolae of the gumbases. Our boatmen say that one ought not to come alongside these tombs, the



A large farm in Khiva. The high trees to the left are pyramidical poplars.

air here being full of spirits. The inhabitants entertain a superstitious fear of these spirits, and to keep them off nearly everyone has a small silver tassel, containing written prayers, sown into the top of the little embroidered skull-cap, worn below the fur-cap.

Early in the morning on the 25th of July we stopped off the town of Khodshely and immediately despatched Sherif on horseback to hand over to the Beg residing there our letters from the Divambegi in Khiva, who had written that every Khivinian Beg through whose district we travelled, had to procure a good house in a cool place for us, serve us with a ziyafat (festival) and supply us with horses, carriages, canoes and servants whenever we wanted. Sherif returned soon after in a small Russian spring-cart and with two arbas, and in these we covered the 4 kilometres to the

town through a flowering steppe. Sherif had to be our coachman, as none of the servants of the Beg knew how to treat this carriage with which a Russian had presented him. Passing through a mud-town of a poor appearance in whose bazar the only articles exposed to sale seemed to be meat, melons and the never failing watches, we reach at the outskirt the castle of the Beg encircled by the usual, high clay-walls. Beneath the shadows of some willows beside a little pond was placed a meal consisting of pillau, boiled meat and boiled pumpkins (kaduh) together with melons, grapes and plums. A large Kirghiz yurt, by the way, a more pleasant place of residence than the dusty clay-houses was to serve as our hotel. The Beg did not make his appearance, probably because he would not have more to do with these Kafirs than he was obliged to. We therefore inquired what was the meaning of his not being present when foreign guests visited his house, and then the old grey bearded Beg turned up, making many excuses. He had been so busy. But we had visited too many of that sort of people, not to be aware of the real cause. Fanaticism is great among all Mahomedans of Central Asia; but they dare not display it too openly.

The Beg Khodsha-Bi (Bi is his rank) told us that his residence of Khodshely consisted of 5—600 houses which gives a population of about 3—4000 — the truth is that the town has about 150 houses with about 7—800 inhabitants — and that his great grandfather Khodsha (i. e. teacher) arriving from Medina had called people together to this good place to build the town which was called Khodshely after him. He had himself been Beg here for 51 years, a remarkably long time for a Mahomedan official. Formerly the town was encircled by walls, but now these are mostly ruinous. There is nothing worth seeing in this town, both medresses and mashits are small and simple clay-houses. Except the west side, the immediate precincts of the town are nearly flat and covered with durra, melons and sesam-fields. We stayed here one day to examine some saints' tombs which cannot be mentioned here. The Beg only paid us the one visit he had been forced to, although the greater part of the day when we were his guests, he held a council with his men at a distance of some 10 steps from us. On some felt carpets spread out round the little pond, he now sat on the ground, now lay on his back, surrounded by 5—6 villainous old fellows; from here he administrated his province, pronouncing sentences and despatching riders with orders to various places. According as the sun inconvenienced him, he rolled

on from one felt carpet to another, and his council rolled on after him.

In the course of the day several persons were ushered into his presence. Thus two men who had a dispute about the irrigation of the fields were examined. They sat on the ground opposite each other, loudly quarrelling during the judicial act. The Beg took things very coolly; now and then he would rise to a sitting posture by the help of his long stick and say a few conciliatory words. Then one of the contending parties declared that he would have nothing to do with the decision of the Beg and went off. The Beg called him back, and the proceeding was continued. When he thought he had heard enough about the matter, he dismissed the parties, and then the Beg and his council lay down on the carpets and deliberated what decision should be pronounced. Then sitting up they spoke together, and after writing something on a small scrap of paper the Beg put his seal with Indian ink under the inappealable sentence. Thus business went on all day long, and on picking a quarrel with one another in the fields people immediately went up to the Beg to hear his decision. When there was a pause in the mediæval administration, pillau or tea was brought out and served on the carpets. The Beg and his men drew together in a circle round the dish, smoothed their beards and eat pillau with their fingers, and after the meal they again brushed their beards saying: „Allah Akbar!" (God is great!) Then they again set to consulting or performed the daily nâmas (prayer), muttering in a low voice the Arab words which most Mahomedans know by heart, but very few can translate. The nâmas has to be performed 5 times in the day, and it is accompanied by numberless bendings during which the brow often touches the ground. On several praying together they always keep time. The prayer in the large mosques of Bokhara and Turkestan where several thousands of people often pray at the same time has the appearance of athletic exercises. While the old Beg was full of his government affairs, his daughters and wives peeped out through the door at the strange foreigners. All the daughters wore large silver rings with strung pearls in the nose, an extremely ugly ornament, common in the Khanate of Khiva, but rare in Bokhara where it is only seen in a few places. On the whole the women go about more freely in the provincial towns than in the large cities. In Bokhara an unveiled woman is never seen; in Khiva morals are less rigorous, but the women of the Usbegs are nevertheless nearly always veiled when walking in

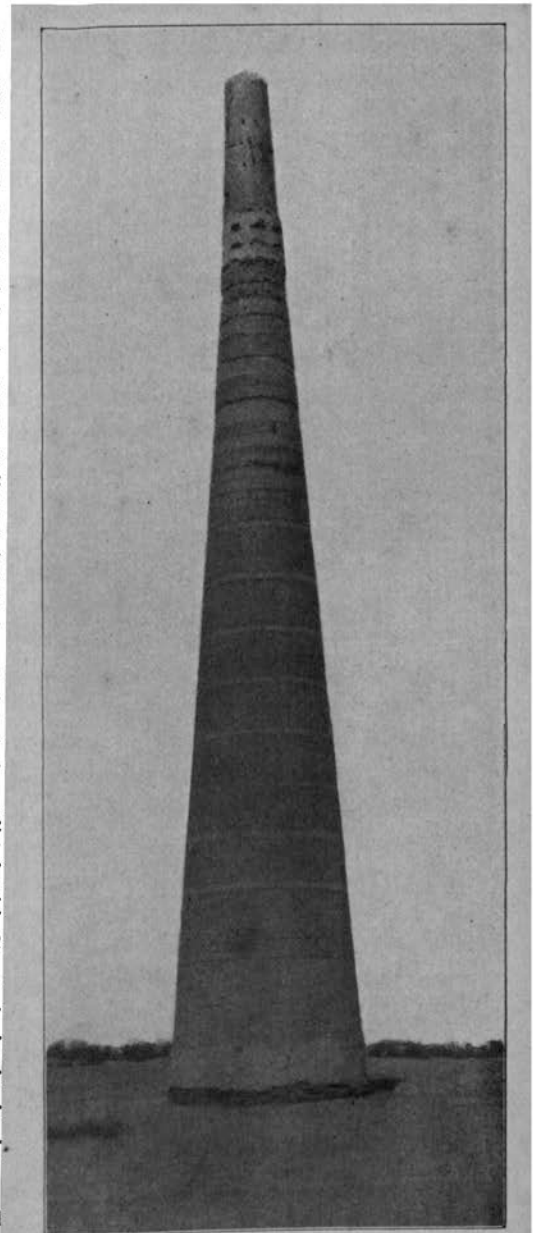
the street, whereas the women of the nomads on visiting the town either do not veil themselves, or they throw a small linen cloak or a kerchief over their heads when a man passes by. In this out-of-the-way corner of the world a veil is, so to speak, never seen. On a man meeting a woman she generally sits down on the ground turning her back to him while he passes by. The population of Khodshely consists of Usbegs, Kasaks and the Mongolian-like looking Karakalpaks (those wearing the black caps). The type is often very much effaced. But on closer inspection each individual can be recognized. The pure Usbegic type seems slightly represented.

On the 27th of July we left Khodshely after handing over to the Beg a letter in which he had asked us to write that he had treated us well. The Divambegi in Khiva had namely declared that if he did not receive such a letter, the Beg would fare badly. I wrote in English on a visiting card, and probably it will be hard work for them to translate the words. The Beg gave us the use of his little carriage, 2 arbas for the baggage and a djigit to ride in front as our guide, and all this because he had received orders to do so. If one has not good recommendations in these regions as almost everywhere else in Central Asia one does not receive the least service, and everything is closed to the traveller. But we knew this from experience. For miles and miles we traversed steppes covered with low tamarisk bushes, camelthorn and, strange to tell, reeds probably originating from the Amu Darya, but now acclimatized in the dry loess ground. The roads are terribly bad owing to the loess cut up during the wet season and now firm. Every moment the carriage looked as if it were about to be upset, we were enveloped in dense clouds of dust, and the sun burned with all its might. Here and there are some Kirghiz kibitkes[1]) round which a little herd of camels, goats and donkeys find a sparse food among the tamarisks. The Kirghiz cut the tamarisks and use them as wood. Dirty women and small girls dressed in red carry bundles of them into the yurt. In some places there is a small native inn in the form of a little mud-house or hut built of mats where a Kirghiz supplies the traveller with water for his horse, hot water for

[1]) Kibitke is strictly speaking a Russian word for yurt, but is also employed by the natives. Yurt is the proper denomination for the place where the tent stands, and Kara-oi (Black House) is the real name of the Kirghiz felt tent; but all words are used indiscriminately. The townspeople here nearly always say bisdeki yurt (my native town) and never bisdeki shahr (town).

the tea and a chillem (water-pipe) which passes from mouth to mouth, each person taking but one puff which he sucks into his lungs. Half-way we stopped at such a mat-house where a Kirghiz woman treated us with kumysh, the sourish fermented mare's milk which she preserved in a very dirty leathern sack. The phenomenal ugliness remarkable in the Kirghiz in East Turkestan and Pamir is not characteristic of those here. The Mongolian features of the type have become more and more effaced on their removing more and more from that race to which these features in their Turkish faces is originally due.

At a distance of about 10 kilometres from Khodshely the road passes between two mounds dotted all over with burial places. At some distance it looks as if there were some small towns, for in the neighbourhood of most tombs there is a small clay-house whose open sides face the tomb, and where the family of the deceased now and then say their prayers. Above these rise higher gumbases (chambered tombs) over more distinguished people or saints.



The minaret of Sultan Mahommed Karashmishah near Kona Urgendtsh.

On the northern tomb hill a large gumbas towers consisting of 7 smaller vaults, built in the prolongation of one another. On top of the heavy square clay-porch the white flag is waving, and within there is a kabr (sarcophagus) of brick, about 33 paces long. Here lies one of the great saints of Kharezm, Shamghun Paigambar (the

prophet Shamghun). He is said to have been an enormous giant, the sarcophagus only reaching from his head to his knee. The different character af the tombs situated on the banks bears witness to the mixed population buried here. Some are remarkable for the pointed clay-mound, seen everywhere in Bokhara and Turkestan, others for a square or oval mud-wall, and others are nothing but a heap of earth where the bier, upon which the body was carried to the tomb, has been fixed in the ground to show the place of the head. The Kirghiz generally put up a pointed stone, pillar or post, on which the name of the deceased is written at the head of the tomb. The names of the father and grandfather of the deceased are, as a rule, also seen on the post. Near the gumbas of Shamghun was a large stone-vessel, decorated and inscribed. The sheik present told us that Shamghun's dog had used the vessel as a trough for feeding; of course, the dog of a giant must needs be gigantic; but it is more probable that the vessel has been employed to preserve drinking water, as such stone-vessels are also found in Bokhara.

Baked through by the sun and not easily recognized on account of the loess dust which is as fine as the finest flour we arrived towards evening at the oasis with the town of Kona Urgendtsh (Kona or Køna as the Khivinians say is a Persian word meaning old; it is only employed of things not of living beings). We had then been almost a whole day covering the 38 kilometres. Already some kilometres west of Khodshely we had seen a pointed thing rising to a great height above the oasis. We guessed, indeed, it was the high ancient minaret, but still we had not thought the unusually thin and high point to be a tower; especially as high towers are very rare in Central Asia. Except those named in Khiva, only one minaret in Bokhara (The Dead's Tower) and one quite new in Andishan has a considerable height. The Central Asiatic towns do not afford the same picture as the Mahomedan towns of Cairo and Constantinople with their great numbers of high slender minarets. After passing through the desert or the steppes here a Central Asiatic oasis has the appearance of a luxuriant wood where a yellowish grey clay-wall is perceptible here and there. On approaching the town, it proved to be the old minaret now towering for about 700 years over the renowned and infamous robber's Khanate whose Khans were so mighty, according to the natives, that they extended their conquests over Persia to Hindustan. One of these powerful Khans was Karashmishah, presumably Karezm-i-Shah i. e.

the Shah of Kharezm. He had just gone southward to chastise Merv and the Shah of Persia, when the terrible Jenghis Khan arrived at Kona Urgendtsh and conquered the town by the help of his Kalmuks. On Karashmishah learning this, he went back, chasing the hordes of Jenghis Khan from Kharezm. At the time of Karashmishah K. Urgendtsh is said to have been so large that it was possible to walk on its roofs as far as Bokhara. At the entrance of the town six armed riders despatched by the Beg received us, and with these in front we went in a suitable way through the

The border of the desert south of Kona Urgendtsh.

fertile durra fields and the dense alleys, through the closed bazar to the Beg's kala, at the gate of which he received us himself assigning lodgings to us inside his walls.

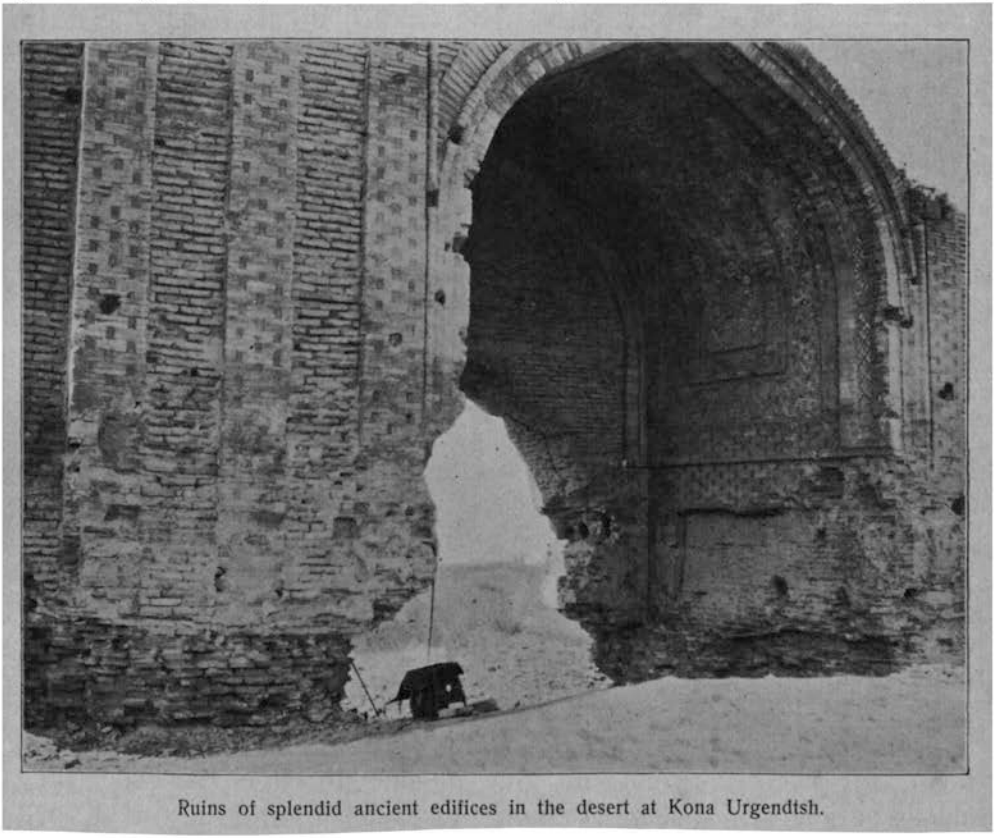
From the 27th of July to the 6th of August we stayed in Kona Urgendtsh to take a view of the ancient ruins. The present Kona Urgendtsh situated north-east of the spot where was the old capital is only about half a century old. It is encircled by an earthen wall, now ruinous in many places, and the town is supplied with water from one single arik, conveyed hither from a point between Khodshely and Kiptjak. As this arik often becomes filled with sand, the boats sailing upon it are often seen lying on quite dry land, and it is only due to great exertions on the part of the inhabitants that lack of water is avoided at that time of the year when

the amount of water in Amu Darya decreases. The town with the flat-roofed clay-houses crowded together and the streets covered with mats looks like all other towns in Central Asia. It has a small covered serai where the business transacted is chiefly concerned with Russian stuffs, whereas the home industry supplies the small booths with articles of trade. On the great bazar days, Sunday and Wednesday, a pretty brisk trade is carried on. From the early morning people on donkeys, camels and horses are seen proceeding to the town from all sides. Usbegs and Yomuts with high fur-caps, Kirghiz with funny flat felt-hats or a piece of fur sown together and ending above in a point, and the Mongolian looking Karakalpaks with small round fur-caps. All are armed with a scimitar or knives worn in the belt, a large matchlock or a spear. Every merchant in the bazar has his arms ready in his booth. It looks as if the town were on war-footing, and the Beg, Sheik Nazar Beg, has always a considerable guard outside his house. Without his gate a long row of old Russian rifles lean against the high stone-wall and lend the house the appearance of a European guard house. He tells us that it is often difficult for him to keep the many different races in check; they speak one language (Turkish dialect), indeed, but they are always at variance with one another. The rapacious Yomuts especially, faithful to the character of the Turkoman race, give a great deal of trouble.

While staying here the men of the Beg caught two horse-stealers who as a warning to all similarly disposed were placed in the most frequented gate with irons round neck, arms and legs. Here they sat for 20 days, so that the passers by could see what scoundrels these fellows were. This treatment did not seem to tell upon them, for every morning on our passing through the gate, they always uttered a "Salam Aléikum" with a broad grin. If it had been the horses of the Beg they had stolen, they would probably have been hung immediately; for the punishment is here always dependent on the social position of the man who has been robbed.

The business transacted in the bazar is mostly retail-business. A Kirghiz or Yomut comes up to the town to sell a woven saddle-flap (kurdjum), a woven carpet or some many coloured felt carpets, another brings some skins or cattle, in order to obtain by way of exchange European articles of trade, especially stuffs. There is no large stock of native goods. The Yomutish carpets are excellent and beautiful as far as design and colour are concerned, but now it sometimes happens that a carpet is dyed with the bad Aniline dyes.

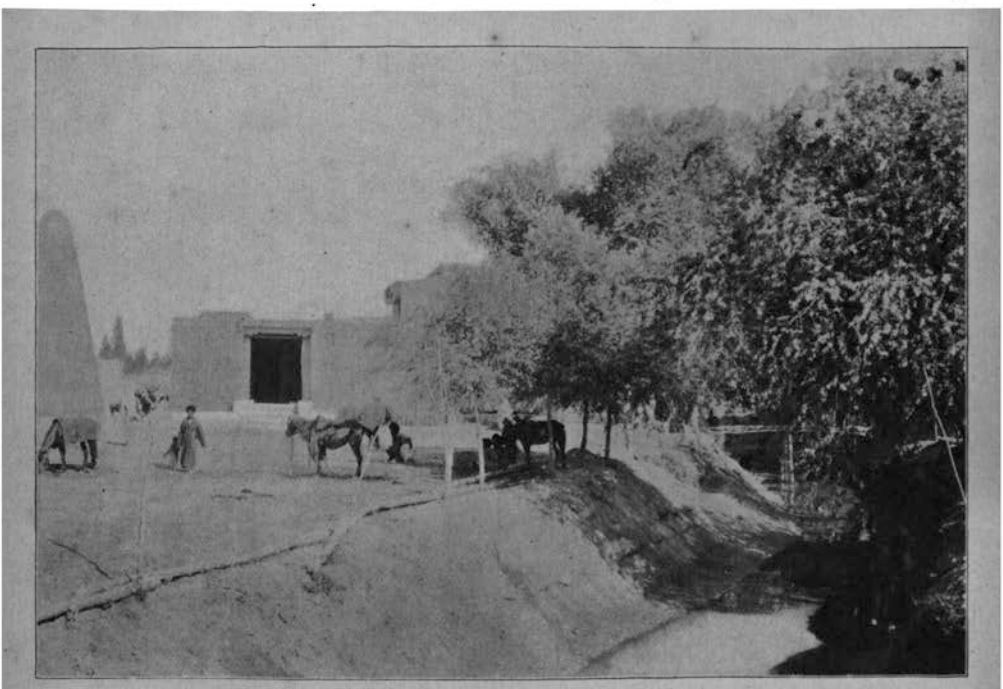
The best carpets cost about 4 rubles the square arshin. When asked about the price they demanded 4 times the just amount, like all Asiatics, and when bargaining with them, they would say to Sherif: "Tell him to pay so and so much for the thing, then you will get part of the profit", and every time Sherif answered: "Hold your tongue, they understand all that you say and know the price



Ruins of splendid ancient edifices in the desert at Kona Urgendtsh.

of everything". Nobody knows how to cheat in business as well as the Asiatic and is so little shy of doing so, and one should never be ashamed of offering him a sixth part of the sun demanded. One can rest assured that the sum paid has generally been too high, nevertheless. But things can often be bought at a low price, because the native has rarely any idea of the real value of them, or does not even know what he has given for them himself, not keeping any account; and especially when several things are bought in a lot, the native is not able to judge how much he gets for each article and is tempted to make a large sum at once. The

best carpets are always bought by the Khan, and only second class specimens are disposed of in the bazar. The same is the case with the magnificent tiger skins; all of these are delivered up to the Khan. Round the towns of Kungrad and Tjimbai north of Kona Urgendtsh several tigers are killed every year. It is the same tiger as the royal Bengal tiger which migrates far north also elsewhere in Asia, for instance to China and Sibiria. According to the natives many

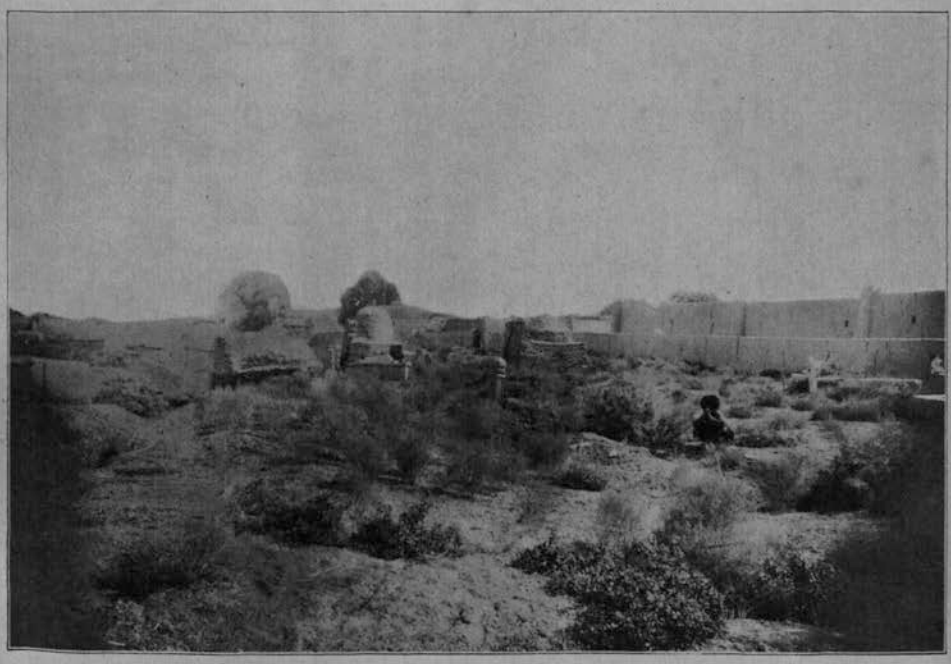


Our habitation at the Beg's at Kona Urgendtsh. To the right an arik overshadowed by poplars and willows.

live round about in the reed woods on the Amu and south of the Aral lake. The herds of the nomads are harassed, often to a great extent, and many human beings are devoured by these tigers every year. In several woods along the northern course of the Amu the boatmen dare not moor at night for fear of the yolbars (tiger). There is decidedly nothing worth seeing in the present town of Kona Urgendtsh. The mashits are small clay-houses, the medresses small clay-buildings round a yard in the middle of which there is a small group of plants. The Khan has a palace here, called Châr darra hauli (probably derived from the Persian Châr-darya = Four Rivers). It is surrounded by extensive orchards, presumably watered

in times past by four ariks. The palace itself is a large plain clay-building whose rooms in the absence of the Khan looked as if they were used as stables for cattle.

The region here is specially renowned for its excellent melons which the Khan declared to be the best in the world. Many natives live through the greater part of the summer on melons and bread, and when travelling on horseback in the country their sup-



Decayed burial ground outside Kona Urgendtsh.

ply of provisions generally consists in a few melons. After eating the inner part of the fruit the rider gives the remainder to his horse. During our stay with the Beg our food consisted exclusively of melons and pillau, varied by nothing else. The most savoury melon is the so-called samtsha, called sandalak by the Tadjiks in Turkestan; then a larger sort of melon, kaün, and later in summer the giantlike karbus (water-melon) ripens. The gourd (kaduh) becomes very large here and the rind is so hard, that it is generally used as a bucket.

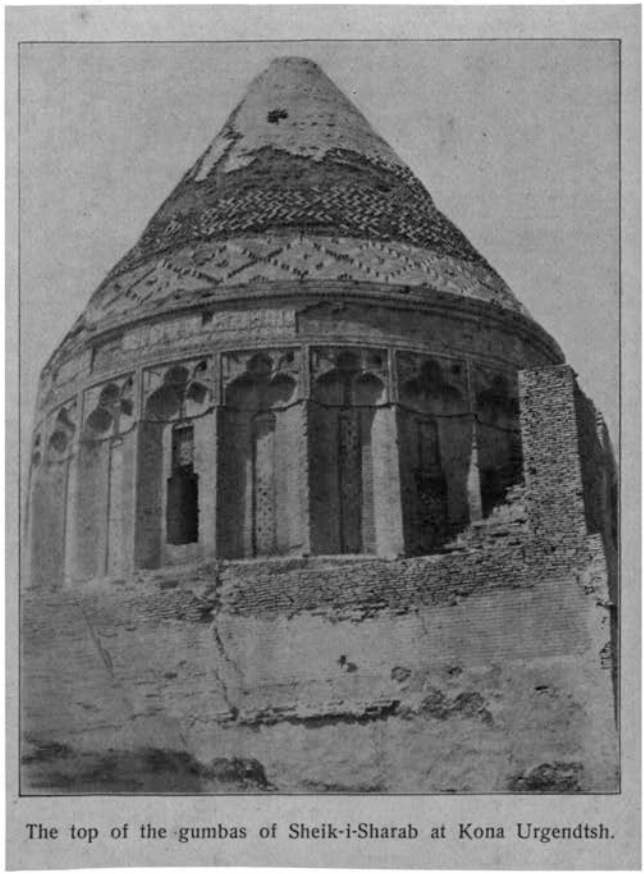
According to the Beg only a small number of the population of the town itself are Usbegs, whereas the majority are made up of Yomuts and Kasaks. Many are much given to the use of opium

which is cultivated in all the gardens. The dried opium capsule when ground into powder is mixed up with water and drunk, but opium smoking is unknown. A few nights while sleeping in the Beg's yard beneath our mosquito-nets we where awakened by the report of a gun near us. Asked what was the meaning of the nocturnal shooting the Beg answered: "Ah, it is one of my servants who takes too much opium; when he sleeps too fast, a gun has to be fired off close to his ears; then he wakes." By the way, the shooting rendered it still more difficult to fall asleep in these towns. All the night long the dogs were howling and the donkeys braying, so that it was nearly impossible to sleep a wink. By day the heat was intolerable. From half past seven a. m. the sun burning from a cloudless sky reduced one to a torpid state, preventing both bodily and mental work. Early in the morning we hurried out to work a few hours, and on the sun having risen some 20° above the horizon we simply fled home into the shade.

Aulia of Imâm Fakir Ghâsé near Kona Urgendtsh.

The places worth seeing at Kona Urgendtsh are situated southwest of the town. Outside the gardens of the town is a large desolate space of the size of about 1 square mile filled with heaps of bricks and clay, remnants of old burial vaults and irrigation canals. The large heaps consist of the collapsed houses of the old

town; probably they were of the same character as the present, but judging from the numerous bricks, this more solid material seems to have been more employed in former times than the present sun-dried bricks, now in use everywhere, and, of course, able to resist the climate for only a very short time. Above these sites rise some ruins kept in pretty good repair and built of some excellent, yellowish brown bricks that have been capable of withstanding the ravages of time. On leaving the present town in south-western direction we find them all in a line. Just outside the walls of the town amidst a confused heap of modern burial places is the aulia of Hazreti Shah-i-Kabir, a large sepulchral chamber built of burnt bricks, whose flat cupola is crowned by a top of encrusted tiles, the so-called kobbá, also often decorating the head end of several tombs. The entrance is ornamented with a high rectangular porch where there is an enormous inscription in raised white glazing on blue ground and splendidly executed conventional flower decorations. The large white, winding Arab letters on the blue ground, this bleu royal, so difficult to produce now, showed up exceedingly well. In the dark gloomy burial vault there is a large, vaulted stone-sarcophagus, surpassing in beauty most of this sort of things. The many colours and ornaments are put together in very good taste, and the designs are real works of art. From the plane surface of the sarcophagus (kabr) project a few pointed arches. At the head end of the kabr is something, at first sight very like



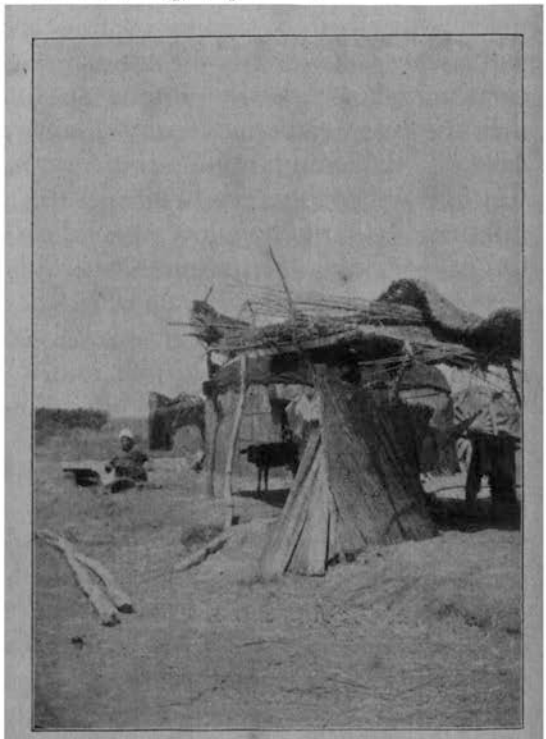
The top of the gumbas of Sheik-i-Sharab at Kona Urgendtsh.

a stone; it is a high square column of encrusted tiles, below which the head of Shah-i-Kabir is said to rest. According to the sheik the tomb is about 700 years old. Shah-i-Kabir was beheaded by the Kalmuks, and therefore his head now rests below this column. But this is presumably a mistake on the part of the sheik. There is namely an inscription on the column which proves it to be likely to be a more finely made name-stone standing at the head end of the kabr, such as is the custom even now with the Kirghiz. We were only allowed to lift up half of the gold-embroidered drapery, elsewhere covering the tomb, so that we were able to photograph the designs. Tamerlan (Amir temir) and his renowned adviser, the calandar Bahavadin, one of the most famous saints in Bokhara and Central Asia, together with Mir-i-Kalul are said to have built this gumbas. Sherif bowed an endless number of times before the tomb, touching the stones with his hands and pulling his beard. He was delighted to have visited such a holy place and believed himself much better than all his compatriotes in Margelan where he was born. "It is well," he said, "that I am now acquainted with this great saint, for when I am about to die and be buried I shall be in want of his assistance."

The next large room was the gumbas of Todeva Khan, a high hexagonal building with a porch. On top of the vault are still remnants of a low tower with a polygonal substructure. Only part of the conical top covered with shining bluish green, encrusted tiles is still left. On the porch, in the pointed niches of the wall and on the tower are even now beautiful remnants of the many coloured mosaic, but the inner vault of the building is specially rich. Here the mosaic looks as if it had been made yesterday; so to speak no piece has fallen out and the fine geometrical figure forming the main frame of the design is filled with conventional flowers and stars glittering in reddish brown, white, yellow, indigo, green and light blue, pure colours and gilding. It is said to have been built by the Khan's daughter, Todeva Khan, who intended it to contain her mortal remains.

On proceeding we find the minaret of Sultan Mahommed Karashmishah, about 80 metres high, built of the same sort of bricks as that of Todeva Khan. Now it stands by itself, rising above the desolate sites, but once it probably belonged to a mosque or medresse. It has the form of a bottle tapering to a long point. Judging from the appearance of the wall I think it probable that high up a gallery has wound round the minaret from which the daily

nâmas of the mullah have sounded over the town. The top that has fallen off was probably conical and covered with encrusted tiles like the other remnants of the building. Below the place where the gallery seems to have been, two belts of conventional Arab letters wind round the tower. After the minaret follows the gumbas of Sheik-i-Sharab whose conical tower is covered with blue, encrusted tiles and where the narrow, high, pointed niches in the wall remind one of the gothic style by which it cannot, however, have been influenced.



Kirghiz summer camp on the right bank of the Amu Darya. (Kasak-Kirghiz.)

Then there is the gumbas of Imâm-Fakir Ghâsé, a totally stereometrical figure below a cube, above this a twelve-angled tower, crowned by a twelve-angled pyramid. On its northern side are three pointed niches. The roofs of the two latter are partly covered with blue glazing. On the old course of the Amu Darya, still conveying some water here, and near the few remnants of the old town-wall which is built of clay, we find the remainders of a gumbas, an archway in pretty good repair, decorated with mosaic in white, yellow, indigo and light green colours. The archway is even now flanked by the remnants of the winding stairs which have led up into the minarets by which the archway was framed. At a distance of some 25 metres from this ruin is another ruin of an archway probably belonging once to the same gumbas, and west of the latter at the extreme end of the huge space are a great collection of clay-walls, Bâgh-i-Karashmi-shah (The Gardens of Karashmishah). All round the sites are found remnants of the old cyan coloured glass also to be met with at the present day at Samarkand. An excavation of these ruins would certainly yield interesting results; it is a great pity if nothing is done to preserve at least the vault of the gumbas of Todeva Khan, the

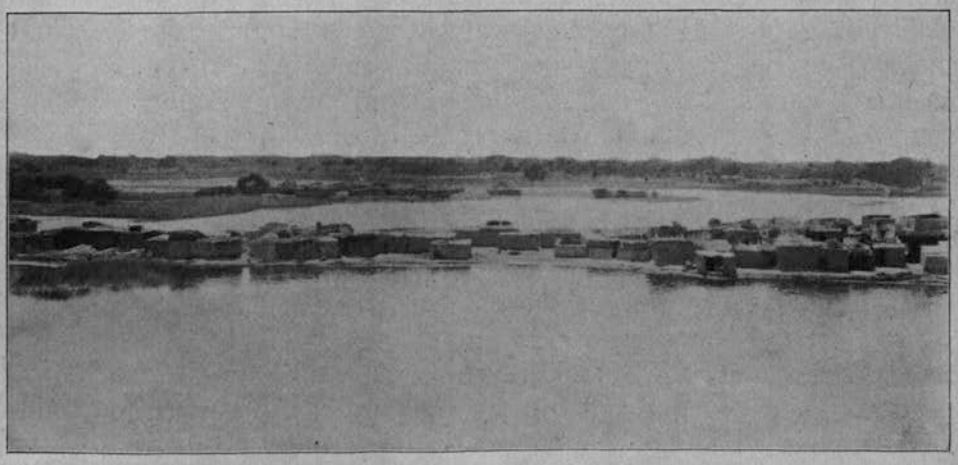
finest treasure of Central Asia[1]). The many Persian denominations enumerated here, the many Persian names met with in the population and the Persian style of the encrusted tiles show the extension of the Iranian dominion to these regions and probably in the first century of Mohammedanism.

Having finished our work in Kona Urgendtsh which cannot be dealt with more thoroughly here, we hired a large kaik to take us through the arik, which has a length of some 28 miles, to the Amu Darya, but a sand bank in the river off the outlet of the arik unfortunately prevented the water from getting up to the town. The arik had to be excavated before we could sail, and we therefore resolved to go back the same way as we had come — by Khodshely. The Beg lent us a small tarantas and two arbas, expressing in florid words, according to the custom of the country, what a sorrow it was for him to be deprived of our company. "Your visit has redounded to the honour of myself, my house and the whole of Kona Urgendtsh and made me heartily glad; I am now very distressed at your departure, peace be with you and yours"; such was the talk of his lips, but I think in his heart he was exceedingly happy to get rid of us. During our stay at his house we had seen him only a few times, and, by the way, I believe that he was a great fanatic who would have preferred to turn us out if he had been able and had dared to do so, but one cannot complain of this. He did his duty and even made 12 armed riders go in front of the carriages as an escort of honour, and presented us with some carpets.

On arriving at Khodshely our darghan from Kona Urgendtsh announced himself. Two hours after our departure the arik had become filled with water, and he had now almost got as far as Khodshely in his boat. We stayed one day with the Beg in Khodshely, procuring fowl, rice and dried bread and on the eighth of August we went up the stream of the Amu Darya southward, being happy to be for some days free from the fever-stricken oases in the flat country, even some 40 miles west only a few feet above the level of the Amu. When the wind was good, a large quadratic sail, very like a square-sail, was, in want of such civilized things as a block, hauled upwards by a rope running in a wooden hook fastened to the top of the mast. On the wind falling light, we were towed on along the bank by 4—5 men who keeping time with the rope across their shoulders trudged on now through

[1]) See O. Olufsen, Old and new Architecture in Bokhara, Khiva and Turkestan. Copenhagen 1904.

the high reed woods, now among camelthorn and tamarisks, now through dense togais, where the rope stuck each moment to a tree; and sometimes they waded in the mud in their rags, which but sparingly covered their sun-burnt bodies. Excepting a short stay in the town of Kiptjak where we took on board a new supply of fowl we sailed on incessantly along the east bank where the Kasaks live in their yurts in the narrow edging of poplar woods situated between the river and the desert. The Kasaks here are not nomads proper, living at the same spot in their yurts, both summer and winter, always or at any rate through a longer series of years, and tilling



Inundations from the Amu Darya in the town of Hanki in Khiva.

the soil like agriculturists. We often made a halt with these hermits to get some of their excellent milk for our primitive meals.

A little south of the mountains of Sultan-bâbâ we visited some large ruins of a Giaur Kala at the point of Yambâk which is filled with Kirghiz yurts. On its walls are clay-columns whose style is not unlike that of the Egyptian south of Cairo, without my insinuating that there is the least connection with these. On the ridge of Sultan-bâbâ is a tower, probably in some remote time a sort of watch-tower from which communication could be kept up between the Giaur Kala, named here and that situated farther north which I mentioned on my way out. The mountains of Sultan-bâbâ have always been the refuge of bands of robbers often inconveniencing the Russian authorities very much. A Turkoman (Yomut), Bâbâ Göklin, was very troublesome here throughout many years before the Russians were fortunate enough to catch him. At last no less

than 2 companies of infantry and one hundred Cossacks had to be despatched to seize him. Even now it happens now and then that the natives take up arms openly against the Russian military. Thus some day, according to Colonel Galkin, the Yomuts from their auls fired at the Russian posts who guarded the exercise-ground during the manoeuvres of the soldiers. Such small skirmishes can, of course, never be avoided in a conquered country where the childish simplicity of the population is combined with the ever present fanaticism.

Farther up the river on the east bank almost opposite to Hanki or Hanka, as it is called by the natives we pass by a real colony of fishermen, all in uniform, from small boys to old bearded men. These are the Ural Cossacks transported hither and settling here in summer with their light small boats with high stem and stern reminding one of the Norwegian boats. They are encamped on the bank with their boats, nets and mosquito-nets, sleep in the night on a piece of felt and beside their primitive cooking implements, they generally only bring along with them the image of a saint which they hang up at the head end of their mosquito-net. Even the poorest man here is in possession of the latter without which the sojourn on the banks of the Amu Darya would be intolerable during the summer nights. As soon as the burning sun is about to set and one looks forward to coolness one is tormented by these small buzzing horrors, the mosquitoes. To be able to have our evening tea undisturbed we were obliged to light large fires of tamarisks giving out a dreadful stench, but the stench and smoke is as nothing compared to the mosquitoes.

Khivinian women waiting for the ferry to Hazarasp.

On the 14th of August we went through a broad arik to the town of Hanki, as it were, a small cosy sea-port, the canal of which, fringed by huge elms and poplars, is filled with large gemas with

a high stem and stern decorated with ox-tails. In the arik the brown Usbegic children are bathing, and beneath the shadows of the trees groups of natives are drinking their green tea sitting on reed-mats. Here we met with our darghan (kaik man) who had taken us from Charjui to Petro Alexandrowsk or Dört gjül (Four Flowers), as the town is called by the Usbegs. Our large gema was now a wreck in the arik, and the good old Mussulman said quite open: "I knew very well, indeed, that if the gema were able to take you to Dört gjül, it would, at all events, be good for nothing any more". The gemas of the natives generally do not last more than about 5 years. Strange to tell, these people sailing on the river for centuries have not been able to improve their boat-building. It is the same with the boats as with all other things in Asia. A pretty high culture was attained as early as the 13th century; since then all is stagnant. After the time of Tamerlan no progress has been made, and probably will never be made as far as the natives are concerned. In the course of time Russians and foreigners will build up a new culture on this ancient one, and then the descendants of Khans, Emirs and Begs will walk about in the modern streets as water carriers and fruit-sellers, but perhaps, in some future time it may again be the turn of the water carriers and fruit-sellers.

From the upper part of the town wall at Hazarasp. (Salomon's tower.)

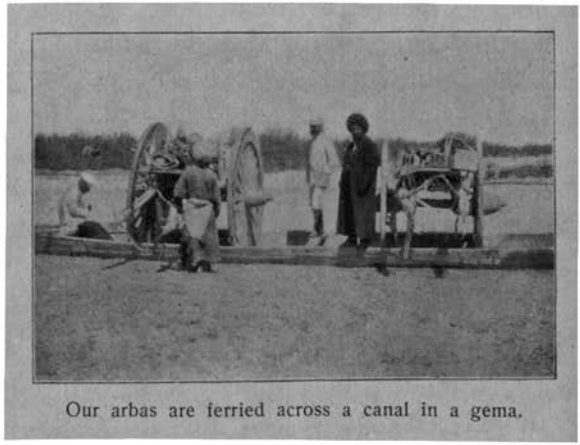
Hanki is a town of the same size as Kona Urgendtsh. It is situated about 3 kilometres to the south of the arik surrounded by the most fertile fields where the plants principally cultivated are durra, lucerne, sesam and cotton. The town itself is surrounded by high clay-walls with the circular bastions in use everywhere in Asia. In the little dirty bazar which is so dark that one might fancy one's self under ground, nothing but simple necessary articles

are displayed for sale, such as Russian stuffs and the more solid cotton stuffs of the natives, tea, matches and so on, together with the fine curly-haired black, brown and white sheep-skins employed by the native Usbegs for their high caps. Many of the people are blind or have weak eyes here as everywhere in Khiva, and the close streets are filled with a suffocating stench. Now and then one of the exiled Cossacks from Petro Alexandrowsk is seen riding through the bazar, otherwise Russians are hardly ever seen here as elsewhere in the Khanate. The natives manage their own affairs i. e. they are governed by their Beg who receives his orders from the Khan. They only know that there are Russians and Mussulmans and then these ferenghi, also, in their opinion, somehow or other subject to Russia. In the town there is nothing whatever worth seeing. Outside the walls there are many tombs generally built in the form of mud-framehouses, about $1^1/_2$ metre high.

On the 15th of August we left Hanki for Petro Alexandrowsk. We did not get up to the bank until late in the evening and only the next day did we enter the town where lodgings were assigned to us in the officers' Sobranja. We immediately made preparation for a short excursion to the town of Hazarasp. Before starting in the afternoon on the 17th of August we were invited by Colonel Galkin to witness an interesting scene when the natives brought their complaints and supplications to him, as they were accustomed to do under the government of their own Beg. The colonel with his Tartar interpreter beneath the shadows of a large elm amidst a picturesque assembly of various types of nations, thus tall, strong and robber-like looking Kirghiz from the wells at Tamdeh in the midst of the desert of Kizil Kum where civilized people never go. These were among the worst robbers of Central Asia, according to the colonel, and many of those present here had committed several murders. One of them had just stolen 500 sheep on Bokharan territory; he had now appeared to prove his innocence. There were Karakalpaks, Usbegs, Nogais and a few Tadjiks who were rare in this region. Most of them advanced complaints of their wives or of the distribution of water for the irrigation of the fields. One man complained that his son-in-law had eloped with his wife, probably a pretty rare case. All pleaded their cause with an elegance as regards fluent eloquence and gestures, as if they had been barristers for years. The most wretched lazzarone dressed in the most wretched rags understands forms as well as any Euro-

pean courtier. Form is all in all to them; it is less important whether the contents are truth or lie.

This conference being over we loaded some provisions and our baggage on two arbas and went ourselves in the tarantas of the colonel down to the bank after upsetting it twice. From here there is a regular ferry across the river to the town of Hazarasp situated to the south-west. The natives ferry the passengers over the river in their kaiks as they have done from time immemorial, the price for each person being 6 Khivinian Pul (= 1 penny). The river here divides into many arms. To facilitate the transport of the baggage across the islands from one river arm to the other where we had a new ferry three times, we placed the loaded arbas together with the horses on the kaik and, strange to tell, we crossed the rapid waters of all the river arms without upsetting the kaiks and without any other mishap than that one of our horses fell into the water, but was dragged out again. On the jolting arbas to which it is difficult to stick when driving over the rough ground we continued our expedition through high Kamish-togais (reed-woods), reaching finally the flat tamarisk steppes. Our coachmen who were our guides here did not know the way, and at last we were within a maze of ariks where we could neither get forward or backward. From some herdsmen, turning up by chance, we learned that we had gone in a wrong direction. In pitchy darkness we drove back into the cultivated stretches among the clay-houses of the natives where all gates in the high walls were barred. An Usbegic night-reveller enjoying the night outside his house took us to the Aksakal of the district who was somewhat astonished to receive guests at this time of the night. We did not, however, give him any trouble, for we passed the night beneath some trees near his house.



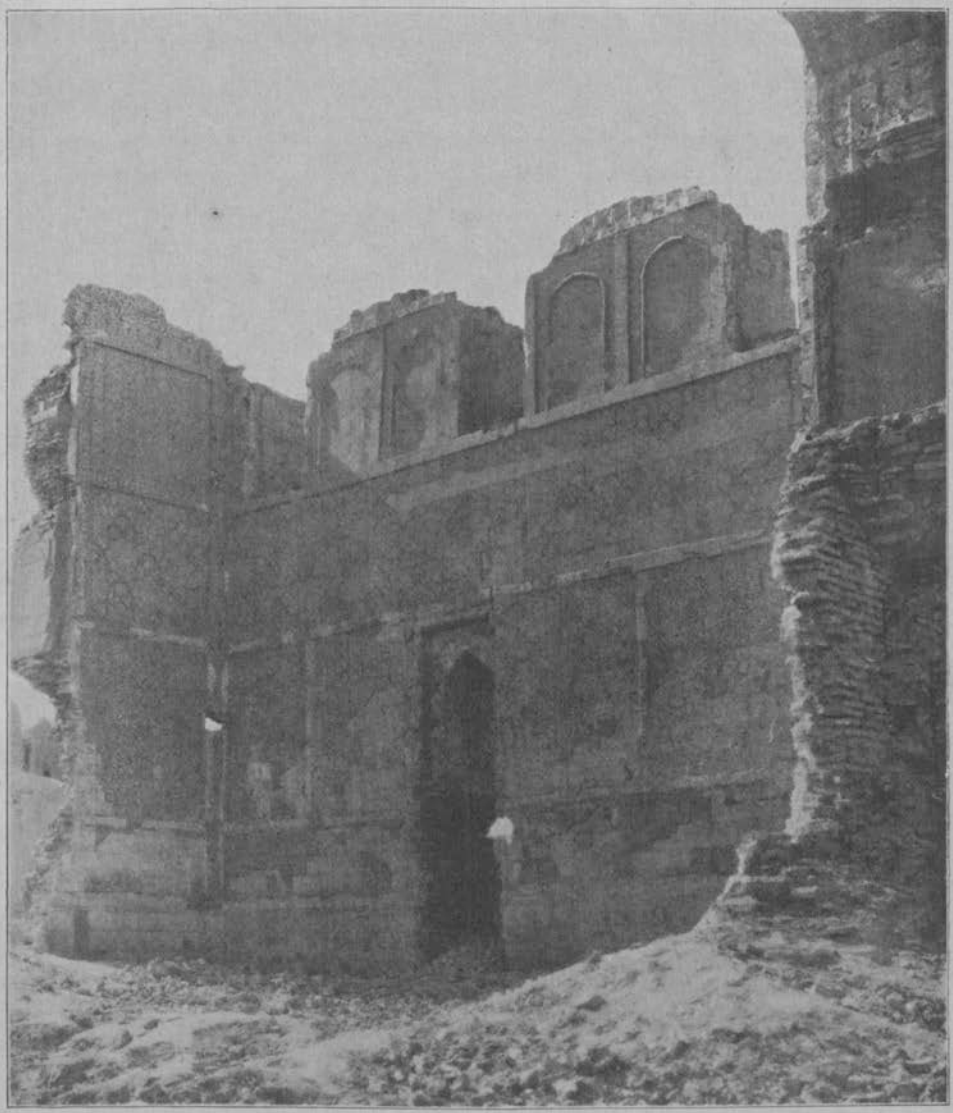
Our arbas are ferried across a canal in a gema.

Early in the morning we despatched a rider to the Beg in Hazarasp with a letter of introduction from Colonel Galkin by means of which we expected to be admitted. And we had not gone far, indeed, when four riders from the Beg arrived to be our guides.

With these in front of our carriages and behind them we went through the durra, rice, sesam and cotton fields, between the high clay-walls through a little bazar where the Usbegs with their mouths wide open stared at the strange guests and beneath a dark gateway where the old watch-towers had fallen down. In the midst of the labyrinth we were received by the Aksakal of the town and the grey-bearded Beg of the province, Djimanias Dewân. The Beg took us to a house which had been made ready for us. Here the old well-known festive meal was served to us: pillau and lots of fruit and sweetmeats. The old Beg to whom this province had been allotted by the grace of the Khan conversed a little with us, asking what we wanted and about our country, and he was very surprised on learning that all ferenghi were not subject to Ak-pasha i. e. The White Prince, by whom is meant the Russian Czar, but that there were many realms besides Russia, Khiva, Bokhara, China and Persia. When the Beg with attendants had left us, it was as if we were in Khiva, Kona Urgendtsh or any other Khivinian town. All is alike to the slightest detail: a large, empty room whose floor was carpeted; a veranda where the roof was supported on the slender carved wooden column with the stone basis and at a corner of the small yard the Usbegic servants sitting on the ground staring fixedly at us.

Hazarasp (a Persian word meaning thousand horses) is said to be one of the oldest towns of Kharezm. Originally it must have been very small, the old clay-wall, which has a height of 10 metres, with the semicircular bastions being only about 300 metres square. Into this fortress leads only one single gate formerly defended by two towers whose tops have fallen down. It is called Pasha Darvasa (The Royal Road). On the old wall are the remnants of a square tower built by the Prophet Salomon, and in the ruins of this tower an enormous old giant (a Dew) is sleeping. While standing in the tower a devannah (a lunatic) was playing a cow-horn on the top of the clay-walls. Soon after we saw him riding through the streets on a long stick. He imagined himself to be the Khan riding through the streets to encourage his people to the fight for which he had given a signal from the walls. He is the true representative of the view which the Mussulmans take of the present time. They are still living in the 13th century and are incapable of understanding what is now suddenly rushing in upon them. They look upon all that is called civilization as a bad vision which the sooner it disappears the better. "What is to become of us poor

Mussulmans when it is really true what you tell us that there are so many ferenghi all round us with all these institutions which we



Ruins of the palace of Ramankul Inâk near Hazarasp. It was formerly covered with majolica everywhere. Of the majolica (blue with white designs) considerable remnants are still seen.

do not comprehend at all", an old mullah said to me one day. "Some time ago a Russian officer in Khiva noted down all people, corn and cattle, and now you have also come to make notes. The

Russians and perhaps also the ferenghi are soon coming to take everything away from us. When I was young there were guns on all our walls and many matchlocks; but the Russians broke all of them to pieces." The old man looked very sad and I had to comfort him by saying that things would be all right, if the Mussulmans would only keep quiet.

Inside the walls beside the tower of Salomon are the ruins of a previous palace decorated with encrusted tiles in blue and white Persian designs. Here the Beg Ramankul Inâk resided some 40 years ago being the absolute sovereign of the province when the Turkomans had killed his master, Mahommad Bahadur Amin Khan. Ramankul (Inâk is a high official title) lived here in winter; in summer he lived in an extensive clay-palace, now ruinous, at a distance of some hundred metres from the town. Under the reign of Mahommad Bahadur Amin Khan Hazarasp was extended to more than its double size and was also surrounded by walls connected with the old wall so that it looks as if the town were divided into two parts by a transverse wall. From the walls there is one of the most splendid views on the whole to be found in Asia. The town is situated in the midst of marshes or small lakes with rush- and reed-grown banks where myriads of stilt-plovers live together with ducks and terns. The region is densely peopled, one clay-house lies close to the other, and groups of these small huts and large farms surrounded by high clay-walls are dotted about on small islands, spits and tongues in the fens.

Having finished our researches in Hazarasp on the 21st of August, we crossed the river to Petro Alexandrowsk where the small Russian military steamer had arrived, on which we reached Charjui on the 31st of August after sailing 10 days against the current. Then the expedition went to Persia.

3.

THE CLIMATE

As the regions of Bokhara are situated chiefly between 38° and 40° latitude North, that is in the same latitude as South Spain, their climate is very unequable owing to their continental position, especially in the level country. In the mountains in East Bokhara and Pamir conditions are made somewhat more equable in this respect, here the cold of winter increases, indeed, but the summer heat also decreases. The great climatic variety is due to the different altitudes of the country within the frontiers of Bokhara from the rough high plateau of Pamir at an altitude of about 4000 metres and from freezing glaciers in North-West Pamir at an altitude of 6 and 7000 metres to the low oases, steppes and deserts in the Aral-Caspian depression; the climate of a well watered oasis and of the surrounding steppes or deserts also differs very much, as artificial irrigation especially causes a cooling of the air on account of the brisk evaporation in summer.

Bokhara or Transoxania is the land of great contrasts. The contrast offered by the smiling, flowering steppes of April and May and the ugly, brownish black, grey or yellowish steppes of July and the rest of summer when they are scorched by sun and drought, by the magnificent, well watered, fertile oases and the desolate, terrible deserts and sterile, naked mountains, and by the fertile, yellowish grey loess in the oases and the miserably poor drift sand in the desert, is again found in the climatology of these regions.

The climatic differences in the varied territory of Bokhara are chiefly due to the winter climate, whereas the summer climate in the mountain valleys and the level country is much the same.

The typical climatic features in all regions are the early spring with its smiling fertility, the rainless hot summer with a bright sun

and a cloudless sky where everything is dried up when not watered artificially, and where all that is green in the irrigated oases is covered by a layer of yellowish grey loess dust, and the calm nights with their sparkling stars and a brilliant milky way which not even the moonlight is able to outshine. An excessive drought in summertime sucks out every bit of moisture from clothes, wood-work and other things, so that, for instance, wood-work is simply eaten up by sun and drought, and brightly polished cutlery never becomes rusty in summer. Add to this the abrupt change in temperature from day to night and especially a sudden violent change in the temperature of the mountain valleys when the sun suddenly disappears behind the mountain crests. Strong extremes of summer and winter are prevalent. As suffocating as may be the summer heat, as villainously cold is it in winter. In the summer of 1899 we had in July on the Amu Darya a temperature of 59° Centigrade, in the oasis of Bokhara it may rise in July to 48° and 50° Centigrade, and a temperature of 10° and 15° Centigrade below zero is not rare in January in Bokhara, and one of 30° Centigrade below zero in the regions on the lower Amu. December and January are the coldest months when even the most rapid mountain streams are often covered with ice. The temperature in the Bokharan Pamir valleys falls to 25° and 30° Centigrade below zero and in High Pamir to 48° Centigrade below zero, whereas the winter temperature is considerably milder in the Surkhan and Kafirnihan valleys and on the Amu in the East Bokharan mountains; the winter cold increases very much with the altitude east of the meridian of Baldshuan. At times the winter temperature of the oasis of Bokhara sinks to 25° Centigrade below zero, for which phenomenon many natives pay with their lives.

The extensive territory from the mouth of Yenisei over West Sibiria, Transcaspia, Bokhara and Turkestan lies open to the cold winds from the Arctic sea which, when the wind is north-east or east, bring snow-storms in winter and sand-storms all the year round. These rough winds have here full play across the flat steppes, devoid of woods and often also of vegetation. The easterly provinces in Turkestan and on the Syr Darya are somewhat sheltered from the northern winds by the western spurs of Tian-shan, and winter is therefore milder here than in the rest of Central Asia where the cold increases considerably as soon as one has passed the meridian of Tashkent on the way towards the regions south of the Aral. The beneficial influence of these mountains upon the winter cold in

Bokhara is, however, perceptible, as only the north wind is able to sweep directly over the country. Towards the south Hindukush shelters from the heat, the mountains with their perpetual snow and glaciers go towards cooling the air, but an oppressive summer heat is nevertheless typical nearly everywhere.

In the regions near Bokhara and farther west snow-storms and fall of snow are rather frequent, but the snow seldom lies on the earth for a long period. In 1896 it snowed very fast for a couple of days in Bokhara and Kermineh at the end of November. Burans, the name by which the natives call both sand- and snow-storms are, on the whole, frequent in winter and especially in December and January. The snows of early autumn seldom lie any time on the ground; one may walk for hours in heavy snowy weather, and yet deserts and steppes are continually devoid of snow, it vanishes before the wind and evaporates as if by magic. The air is full of white flakes, so that one cannot see one's hand before one's face, and nevertheless one wanders in the yellow desert sand or on the brownish black steppe.

Outside the oases and the river banks where vegetation is kept alive by means of artificial irrigation, the moisture which the sky yields directly in the form of snow in winter and rain in spring, is the only condition of life of the plants; for the summer rain is of no importance and principally a curiosity. It is therefore quite natural that vegetation in those regions that are watered directly, has but a very short existence. We see, indeed, the flora of the steppes grow up in April, flower, run to seed and wither in the course of May and June and leave the steppe as waste as a desert, whereas the oases and river banks, so small compared to the large area of which we speak here, are kept alive by means of the supply of snow in Pamir and the East Bokharan mountains which yield water to the rivers. Winter and earliest spring is the time that gives moisture, and when spring has really set in, one may without much uncertainty always reckon upon dry weather and bright sun. One can very well lay one's plans for the next day regardless of the weather, there is no risk of disturbances in this respect.

The drought and the sun make the climate healthy; only in swampy regions and much irrigated oases with many rice-fields is the climate unhealthy and often fatal both to Europeans and natives. If it were not for the drought and the sun which in the towns act as nature's disinfectants, the natives who are absolutely regardless of hygiene would here be very badly off.

The rain falls mostly in October—November and March—April, more seldom in May. Sometimes, however, heavy rains occur in Bokhara in May, and even in June in 1896 it rained incessantly some days in the neighbourhood of the lower Serafshan. The rain also poured down in the middle of September in Karategin, so that the broad mountain slopes became nearly impassable.

We shall now take a particular review of each season.

Spring. As early as the middle of March spring announces its arrival in the level country, the oases, the East Bokharan mountains and on the upper Amu Darya. Higher up in the Pamir valleys: Karategin, Darvas, Roshan, Shugnan, Garan and Vakhan it does not arrive before April, but even in the plateau of Pamir the snow usually melts away from the poor steppes in April. The steppes along the East Bokharan mountains, the river banks and the terraces of the mountains begin to become green; Turkomans and Kirghiz in the level country move their round tents thatched with felt and reed-mats into the steppe where each tribe has its own domain, whereas in winter they draw together in larger towns of tents or into their abandoned mud-houses in the valleys. The half-nomadic Usbegs and Tadjiks in the mountains send their children and women up on the mountain terraces with their cattle; here as well as on the steppe they take advantage of the short time before the spring grass is burned up by the sun. Here they live in their primitive stone summer houses (yailâk or ailâk) while the men remain in the villages in the valleys and commence to till the soil. The higher valleys and the mountain ravines, which in winter lie waste and are generally cut off from one another by the snow from the middle of November, come to life again. Intercourse between them is resumed, and in May most of the passes can be traversed. The sounds of camels, dromedaries, donkeys, horses, cows, sheep and goats are heard round about from the green meadows. The transition from winter to spring is marked by heavy rain, in the westerly regions beginning at times as early as February. At the end of March vine, figs and pomegranates are uncovered, and at this time the trees come out in leaf.

In March the snow melts away from the slopes in East Bokhara, whereas in Garan and Vakhan it may lie until well into April, and only then does the higher Pandsh valley break up. The melting of the snow occasions considerable inconveniences in the valleys; avalanches, snow-slips and mountain slides are of every day occur-

rence especially in the Pandsh valley and its side-valleys towards the east. The Shahkdarra, Gund, Vartang and Yashgulam are of bad repute in this respect. Gigantic granite and gneiss blocks roll down into the valleys roaring, rushing and cracking and end on the river banks or in the rivers, forming obstacles and cataracts on their way; they often roll down into the kishlaks where they destroy houses and fields or kill people and cattle; this happened several times during my stays in the Pandsh valley. On their lower course the rivers in East Bokhara overflow the flat regions which form a swampy slush in spring, so that they are impassable. The drifting of the ice in the rivers Pandsh, Surkhab-Vakhs, Kafirnihan, Surkhab, Amu Darya etc. often occasion immense heaping up of the ice into veritable mountains were the rivers bend, and rivers passable in winter across the ice or on gupsars in summer become impassable at this time of the year; even the traffic with large gemas on the Amu Darya is very dangerous. In a few deep valleys the piled up ice-masses lie for a long time, and for instance in deep ravines in Pamir through which the tributaries run down to the Pandsh they may lie till far into May, and icicles can be seen here every morning all the year round.

The weather is in spring very humid; shower after shower, floods and newly formed fens transform steppes, oases, river banks and mountain terraces, where there is loess, into a perfect slush. In the oases it often happens that one's long boots are left sticking in the yellowish grey, sticky soil, and it is often difficult for five horses to drag a tarantas through the steppe. The broad pass slopes in East Bokhara and Karategin are nearly inaccessible of ascent and descent, beasts of burden and riding animals slip and tumble down times without number. In the oases the agriculturist commences to till the soil, and in the large caravanserais the equipment of the commercial caravans begins, the latter are often obliged to travel for months and months and have to be fitted out as sort of expeditions.

Not before April does the sun begin to come out for good; shorter violent torrents of rain occur, indeed, now and then, sometimes accompanied by heavy storms with hail, lightning and thunder, but they are generally of short duration, and in the middle of April the sun has obtained such a hold that the territory is fairly passable. Electric discharges are, on the whole, not frequent in Central Asia, and the lightning is said never to strike. During the years I passed in these regions, I experienced nevertheless a

few terrible storms of lightning and thunder both in the steppe and the mountains; in the latter place as in all mountain regions the phenomenon is very imposing on account of the resonance. Amidst a few such storms in Karategin and in the steppes east of Bokhara the lightnings took the shape of ball-lightnings, all of about the same size as the disc of the moon, looking like shells bursting up to about 60° above the horizon, and surrounded by a greenish red mist; no report was heard from the ball-lightnings, but above these branched lightnings cracked up into the zenith. I observed the same sort of ball-or sun-shaped lightnings now and then in Pamir and always very low down in the horizon, because here the strata of clouds are very rarely at the zenith.

In April the almond trees and many other fruit-trees flower in the oases even in Darvas and Roshan, and mountain terraces and steppes are covered with many splendid flowers and high grass in which the cattle often wade to the belly. From the profusion of flowers is heard a many-voiced sound made up of the humming of numberless bees and other insects. Many tortoises appear on the Amu Darya in East Bokhara, numerous rodents are seen on the steppe, and the air is filled with cries from eagles, vultures, falcons, rollers, pastors, bee-eaters etc. while in the oases the stork croaks merrily on the roofs of the mosques; for Bokhara is a regular country for storks. In the oases April is the most delicious mouth. All the trees become by degrees covered with fresh leafage; the mock acacia and the chestnut bloom; the large poplars, willows, elms, walnut and mulberry-trees with their large green crowns relieve the monotony of the yellowish grey clay-buildings. All is freshness and life as well in the plain as in the mountain valleys in the higher of which spring is, however, now and then somewhat delayed. The air is still humid enough to keep away the dust from all that is green and blooming, and as yet the clouds give a shelter from the strong light of the sun.

The temperature in April in the oasis of Bokhara, the westerly level country and the depressions on the Amu Darya is rather high: a temperature of 16° and 18° Centigrade at seven o'clock a. m., of 25° and 34° Centigrade at 1 o'clock p. m. and of 13° and 15° at 9 o'clock in the evening is rather common, but in the higher valleys in Garan and Vakhan the morning and evening temperature is much lower and night-frost is often observed, and in the highest valleys in East Bokhara and Pamir snow may be found lying even at the beginning of June. A beautiful mass of

cumulus clouds rushes like smoke across the mountain crests, and the valleys are often full of a stagnant, vaporous mist; even in the plains the cloud covering is rather considerable. The relative humidity is about 50% and 60%; but there may be days where in the level country it decreases to 23%, and even to 16%. The number of sunny days is 30% and 40% of the days of the mouth. Owing to a strong radiation often prevented neither by clouds nor dust the nights are rather cool.

Summer. In May in the western regions and the lower mountain valleys, we have already, in the opinion of a Northerner, had a nice little summer; part of May is as yet tolerable, although the temperature of the first days of the mouth rises above 30° Centigrade, but it is not far into May when we must, as a rule, notice 0% clouds and force of wind 1 or 0 by the duodecimal scale, and then the real summer of these regions sets in, not, indeed, as hot as that of North India, but yet it comes near to the latter in this respect. The great lakes of Aral and Caspi do something towards cooling down the summer in Central Asia when the wind is north-west. The temperature observed in the oases and in the steppes differs very much, to say nothing of that of the deserts which is often quite intolerable both to Europeans and natives. The broad rivers in often narrow valleys, the artificial irrigation of the oases where the water is spread in numberless small canals, ditches and drains between corn-fields and gardens cool down the air owing to the quick evaporation of the water. In all centres of agriculture the evaporation surpasses the downpoor very much; while, for instance, in Tashkent in Turkestan it is but 3 times as great, it is on the Amu Darya 27 times as great and in a few spots even greater. The evaporation is so strong that after a violent shower the roads very soon become dry again.

May, June, July and August are the summer months of these regions, the hot dry time where, especially in July and August, the temperature at noon normally varies from 40° to 50° Centigrade everywhere in the level country and the lower valleys, and even in the higher valleys, for instance in Vakhan, a day temperature of 38° Centigrade is common in July and August. Many valleys in Darvas, Karategin and Hissar are real furnaces, and in the depressions on the Amu in East Bokhara and the plain east of its middle course the heat is terrible, often a temperature of

above 50° Centigrade, which in connection with exhalations from the fens renders the sojourn near the latter extremely perilous. The smaller and less irrigated the oases are, the higher is their temperature in summer. In the alpine regions of Shugnan, Roshan and Darvas the climate is very healthy; a better climate can hardly be found on earth than here, and the natives attain, indeed, an unusually high age. People of more than 100 years are not rare, and I met with two men in Vakhan and Garan, respectively 120 and 125 years old. It must, however, be observed that at times the fever is much felt in the oasis of Kalai Khumb.

In June and July the corn ripens and at the same time also plums, apricots and the first grapes.

The relative humidity is very slight throughout the summer. In May it sank down in the town of Bokhara to 12%, and in July and August I have often measured it to be 12% and 14% in the level country. In the higher mountain valleys it is often as low, but at times it may rise to 30% and 35%. The excessive drought causes every bit of moisture to evaporate from clothes, felt and saddle-clothes, so that the smallest spark from a pipe or a fire-arm makes them burn like German-tinder. During our rides there was often such a small fire in the saddle-clothes. The drought, the intense sun and the thin air in the mountains cause chaps and aching wounds on the exposed parts of the body. To avoid such it is necessary every morning to smear hands and face with a fatty substance; vaseline or zinc paste is very much to be recommended. A captain of the Cossacks was obliged in the summer of 1898 to leave Pamir on account of the said trouble and seek recovery in Turkestan.

Typical of Bokhara on the whole is the absence of wind, except that in a few mountain valleys there is always a terrible draught owing to local conditions. The desert is rarely in uproar and the heated air is able to draw the dust straight up into the air, without its being blown away by the wind. The force of wind generally varies from 1 to 3 by the duodecimal scale, strong winds are exceptions.

The prevalent direction of the wind in the level country is, of course, of great importance; on this together with the temperature depends the downpour and the evaporation. It is north or north-east i. e. a dry wind from the continent not charged with vapour from blowing across a sea; it is not only dry, but also cold, and the slight vapour conveyed, instead of condensing owing to a lower temperature,

meets a higher one of the opposite effect. These north and north-east winds exceed east and north-west winds with 50%, being steady and lasting often 8 months in the year, whilst the south winds are the least frequent. In the mountains of East Bokhara the east wind is prevalent in summer and the west wind in winter; but in the Pamir valleys the west wind is typical of the whole year and is a great plague, especially in Vakhan, where the intolerable dry wind scorches all things in summer, whirls up the sand on the banks of the Pandsh into regular drift-sand dunes and renders the winter climate rough while sweeping the valley clean from snow. Typical of all the mountain valleys and especially of the narrower are the regular ascending and descending mountain winds; the evening wind especially, when its direction is the same as the main wind, may rise to a sweeping hurricane. It springs up at sunset behind the mountain crests and often threatens to level with the ground all that projects into the air. In calm weather in the mountain valleys the direction of the wind follows the sun; when one side of the valley is in the light whilst the other lies in shade, the colder air flowing to the light side from the dark one is distinctly felt.

A special wind in the level country is "Garmsal" (Heat Wind) It arrives in summer from the west and the south-west conveying dust so that the air is quite grey from small burning particles. It is most often observed in July after some days' intense heat, the temperature rises, the air is intolerably heavy, all is dust, and the sun can hardly be seen. Generally it lasts but a few hours, and then the air becomes clear and cold. In Bokhara in October it is followed by very low temperature and as a rule by snow.

On such a "Garmsal" springing up with its masses of dust, the horizon from where the wind bears, suddenly darkens; it is as if a shower were on the point of breaking loose. After a few minutes the whole sky is darkened, the air whistles, a few sand grains fall down upon us, the native guide immediately pulls up with horses and carriages, turns their backs against the wind and throws horsecloths and clothes over the heads of people and animals. After a few moments all is wrapped up in dust, so dense that nothing but dust is seen when one ventures to peep out from under the cloth. The cattle become quite maddened on the arrival of such a dust storm, they scatter round on the steppe or rush into narrow ravines in the mountains to hide. After a dust storm in June which lasted about 1 hour, my carriage was entirely covered by a large dust dune.

This dust wind is also called "Tebbad" or the fever wind, as it is thought also to occasion fever; I do not know whether this is right, every indisposition may, of course, be followed by a rising of the temperature of the body; I have several times observed this, and, at any rate, it produced disagreeable feelings, such as headache and neuralgia. It is very much feared by the agriculturist, as it dries up corn and leaves, and if it arrives early in the year, it can destroy the young germs.

Even in May a few clouds now and then shelter from the all devouring sun, but in June, July and August the cover of clouds is really nought in the level country, and only once in a while a Cirrus is seen high up in the air where the sky looks as if it were covered with a torn white veil. In the mountains one sees in the forenoon from the valleys small cumuli resting on the mountain tops all round the horizon; first one thinks that the day will bring cloudy weather, but the small clouds do not rise higher up, they are formed and evaporate one time after the other on the air rising above the crests and then cooling down.

The number of sunny days in May and June rises to 60% and 70% and in July to an average percentage of 90 and 100 of the days of the month. From the cloudless sky the sun burns down upon the open steppes in West Bokhara scorching the vegetation in June, so that the nomads are obliged to leave the plain and seek refuge in the mountains. Large areas are now deserted, and green vegetation only occurs on the river banks and in the oases. Almost at the same time vegetation disappears on the mountain terraces, and only where the mountain brooklets ooze down, does verdure last somewhat longer, until the month of July dries up also the greater number of these, and then the cattle must be driven together on the larger, ever running rivers which convey water from the glaciers and the perpetual snow.

Owing to the sudden changes of temperature from day to night an exceedingly destructive levelling and disintegrating action goes on in the mountains in the species of stones, especially the masses of slate, which are characteristic of all regions in Pamir and the East Bokharan mountains. When we had retired at sunset after the short dusk into our tents we were often called out again by an explosive noise sounding like the report from shotted guns and pistols, but the turmoil always proved to be due to burstings of stones. In the afternoon the rocks and pieces of slate were often so warm that one could not touch them. It is then easily concei-

vable how they may be influenced when they are cooled down after sunset about 50° Centigrade. They burst into smaller and smaller pieces and are at last ground down to dust and gravel which is carried away by wind and water. Thick pieces are disrupted from the hard granite and gneiss, and frost, wind, water and the abrupt changes of temperature riddle deep holes into the blocks of stone which often assume the most fantastic outlines. Silence is therefore, literally, out of the question in the higher regions near the glaciers and the perpetual snow and in the moraines where a living being is rarely met with, for at times crackling, explosive and clinking sounds are heard, caused by the agency of those elementary forces whose presence can only be felt, not seen.

It is conceivable that the high temperature of the air in connection with slight humidity and a cloudless sky is a great inconvenience, even if it would be still greater with a greater humidity, as changes of temperature influence the human organism much less in dry than in humid air. Changes in the temperature from day to night of more than 30° Centigrade in the mountains and of 25° and 28° Centigrade in the level country are not rare in summer; the cloudless air allows of an intense radiation which is not prevented by the sheltering feather-bed of vapour by which more humid countries are covered in the night.

At noon it is so hot in the summer months that no inhabitant of a town ventures out into the country if not forced to do so. The streets covered with rice, mats and clay and sprinkled with water by the water carriers are pleasantly cool, and the Mussulmans have understood how to procure cool refuges in their mosques whose clay-walls are often exceedingly thick. One is inclined to believe that the Islamitic divines prefer staying in the mosques more on account of the coolness than for the love of their religion. The many sheiks and aspirants to this dignity who doze away their time in the dark sepulchral chambers at the holy sarcophagi as a sort of watch, are often envied by the traveller when the latter enters from the burning hot sunshine into these sanctuaries, from where coolness streams out. Having experienced the summer heat in these parts one understands that the cool gardens play such a great part in the paradise of the children of Islam.

On account of the summer heat the natives are early risers. All work is executed in the early morning, and at 7 and 8 o'clock in the forenoon in June, July and August wild animals and birds seek

shelter, only now and then a chirping is heard from the deep shade of the bushes. Only the red-billed crows, the roller and the magpie, so typical everywhere, seem to stand the heat better than the other birds, they sit with their bills wide open on the clay-walls and telegraph-wires or in the willows till late in the morning, but at noon they also hide themselves. The many stray, despised dogs in the oases dig deep holes into the clay-walls of the towns or in the burial grounds, their special haunt. At noon both natives and Europeans doze, the former in their cool mud-houses or nomadic tents in both of which a thorough draught is procured, and the latter with Venetian blinds closely rolled down and generally in a state of nature. Not before 5 and 6 o'clock in the afternoon is there again a little life, and everybody looks forward to the cool evening when the principal meal is eaten. One's appetite is, of course, considerably lessened in the heat and the European, when a new-comer, decreases very much in weight. Tea, some fresh or dried fruit, a piece of melon and a little bread is sufficient food throughout the day for the native as well as for the European.

The natives use all their inventive power in trying to procure coolness; thus the mountaineers in the Pandsh valley and in the East Bokharan mountain valleys build huts of twigs on bridges across the rapid mountain streams, and here they often stay both in the daytime and at night enjoying the coolness from the running water underneath. Under large shady trees in the gardens of the oases they generally make mounds of clay round the trunks, and they lead small water canals round the rising ground. Here they rest on carpets, and behind the rich natives of rank stands a servant waving coolness to them with a large half-moon shaped straw- or leather-fan. In the country they often sleep on the flat roofs of the houses or in conically shaped rice-huts on the roofs or on a sort of lathe in the yards in the open air.

The regions in the level country are among the hottest in Bokhara, there being so little cultivated land compared to the heated deserts and bare steppes. There are summers when it is literally impossible to be out after 7 o'clock in the forenoon. When the sun had risen about 20°, and often even less, above the horizon, we hurried into the houses, the tents or the mat-hut on the gema where we stayed our thirst by taking one cup of warm tea after the other, while perspiration ran down over face and hands. When writing we were obliged for each word written down to wipe our

hands with a towel. One is, as it were, paralyzed by the heat; even thinking is too fatiguing, and at last we did nothing but fan ourselves with the straw-fan, here indispensable for all, as if we were automatic dolls. In some places on the banks of the Amu Darya the natives even bring provisions together for the hottest season that they may be free from going out.

Worse than in the oases is it, however, in summer in the deserts where the temperature of the air often rises to 50° and 60° Centigrade and the sand is heated to 60° and 70° Centigrade. The sand burned through one's boots, and a breath of wind from the burning hot drift-sand hills struck the face like the flames from a fire. Gun-barrels and all metallic objects were heated to such a degree that they could not be touched, and even the water of the Amu Darya was heated in July and August to 28° Centigrade.

The most agreeable way to see the desert is, of course, to sail through the latter on the river Amu Darya; the broad waters lower the temperature a great deal, but without a house of mats above a part of the boat no native commences any lengthy voyage in summer. Although the evaporation from the river cools down the air several degrees, the light reflected from the water also makes the temperature rise in the neighbouring regions.

The loose dress of the natives is in accordance with the climate; the open caftans are very convenient, while the large turbans shelter the nape of the neck and the temples; this head-gear does not, on the other hand, protect their eyes, and the natives are therefore often seen riding about with a card-board shade attached to their turban. Turkomans and Kirghiz draw the fur- or felt-cap down over their ears, protect their eyes by painting black stripes round them or wear pieces of felt in which there are slits for the eyes as in winter when they travel across the glittering snow. All Europeans are obliged to wear dark spectacles, which at our time also find great favour with the natives whose typical sufferings are diseases of the eyes, chiefly due to the bright sun and the predilection of the Mussulmans for a thorough draught in their houses and other places of residence.

If one has not seen the sun-light with one's own eyes it is hardly possible to form any right idea of its intensity. Every crevice in the yellowish grey clay-walls and the yellow loess, in which there are innumerable cracks in summer, is lighted up, and the yellowish colour of everything further heightens the effect of the sun-light. Thus one day when sitting on a flat roof and looking

straight across a street which was about 12 metres broad we talked of the exceedingly strong sun-light, and on the opposite side of the street we could see ants and small spiders of which these regions have great numbers, crawling about in the crevices of the clay-walls of the houses.

In summer the dry loess on roads and streets is ground into dust as fine as powder, and in calm weather carriage-wheels and horse's-hoofs whirl the dust up round the carriage or the rider, so that in the oasis, the plain or in the loess steppe nothing but a dust cloud is seen moving on. On a drive in these regions the universal wish is always for wind to drive the dust off the carriage. The fine dust penetrates everywhere, and in connection with the heat and the drought it occasions a terrible thirst which is not easily satisfied: for the springs which in several places are few in number yield, as a rule, brackish water; it does not do to drink it before it is boiled, as we shall see later on; even the river-water, when not boiled, often produces the very dangerous disease, struma.

As stated above the summer rain is a rarity, thus in the oasis of Bokhara in 1899 there were 3 small showers in May, 2 in June, 3 in July and 1 in August; but all of them were slight and evaporated as soon as they had come down. If some year the quantity of snow in the mountains happens to be slight, the oases have to suffer terribly. Thus in the winter 1898—99 there was a comparatively small quantity of snow in Pamir and the East Bokharan mountains, and the water of the Serafshan proved quite insufficient for the irrigation of both Samarkand and Bokhara. Nearly all was consumed in Samarkand, so that but little reached Bokhara in July and August; then everything faded away, and the natives simply died from thirst, as the dirty ponds, into which all sort of filth is thrown, but which are nevertheless used for drinking water, were also dried up.

It may be realized that summer creates myriads of insects in the oases. In many places the houses are, literally, full of cockroaches and mole-crickets, and scorpions, falanges and tarantulae are in many places a regular plague. In some places in Vakhan, Garan, Darvas and Karategin we were obliged first to examine the ground closely and cleanse it before pitching the tents, to prevent them from being immediately filled with scorpions of a length of 3 and 4 inches. Their sting is extremely disagreeable even if not so dangerous as many people have made it out to be, at any rate not in these regions. The history of a sting from which I myself suf-

fered has been related above. In the depressions on the Amu Darya in the East Bokharan mountains scorpions are said to be found in great numbers, and their sting is said to be able to cause a kind of temporary madness; I have been told this by the natives; the intense summer heat here in connection with the fact that the climate is unhealthy in many places, for instance in the Kulab oasis, may to some extent explain the danger of the stings.

When cooking in the oases the cook must always have a straw-fan in his hand to keep away the insects from pots and dishes. An animal which, because it is found in immense quantities, is also very annoying, is the bat. When dusk sets in in the oases, they buzz and whistle round one's ears, and the swarms are often as compact as swarms of bees.

Another summer phenomenon which besides wasting fields and gardens, over which it passes, also causes disturbances on the railway is the grasshopper. In swarms standing out like large black clouds they traverse in the month of May steppes and oases, settling in the green grass or in the corn-fields, eating up everything down to the roots. The reddish brown insects, not yet full-grown, cover the ground so densely that nothing but grasshoppers is seen within many miles. They sit so close on the tents of the Kirghiz, on houses, carriages, stations etc. that each spot is hidden by them. The rails are strewn with them, and the wheels of the engine whirl round in the greasy mass of crushed animals while the train does not make any progress. The passengers get down and by means of rice-brooms, tamarisk branches and such like sweep the animals off the rails and then strew sand on the latter in order to set the train a going again. Later in the year the full-grown individuals with their large wings are often seen glittering in the sun in huge swarms. In the steppes the Kirghiz set fire to the rich growth of grass round the swarm of grasshoppers, and in the oases ditches with fires are dug all round them, and they are burned alive in the irrigation canals. This plague does not fortunately occur every year, but when the grasshoppers arrive, they occasion great destruction.

But no animal is in summer such a plague as the mosquito; they develop in innumerable multitudes wherever the banks of Amu Darya are swampy or covered with vegetable growth and also in the oases of the level country and here and there in the mountain valleys up to the highest cultivated land in Vakhan at the foot of Hindukush. Without a mosquito-net it is impossible to sleep a wink

at night on the banks of the Amu Dary and in most of the oases. In the mountain valleys it is sufficient to climb on to an airy terrace and in the level country to burn large fires of tamarisks which have a disgusting smell or to smear hands and face with laurel oil, as it has been observed that mosquitoes avoid laurels.

On ascending from the mountain valleys to get rid of the mosquitoes, it is not unusual that here and there one plumps out of the frying pan into the fire, and in some places meets another tormentor, namely large black hornets which are found even at altitudes of about 5000 metres. They always seek the eyes of men and animals and are very difficult to avoid, but fortunately they only appear as long as the sun is up. When travelling in the Bokharan Pamir and working with maps and the like in the camp the tent had always to be shut closely, to prevent my being disturbed by these tormentors; during the march they sometimes made the beasts of burden quite crazy.

Where one has not to fight with mosquitoes, the late afternoons and the evenings are often magnificent, especially in the mountains where the fall of temperature is considerable. If the day has been favoured by wind, this generally subsides towards evening, and only in the mountain valleys there is again the mountain wind for a short time at sunset. The nights are nearly always calm, but in several oases so hot that it is difficult to fall asleep; this depends, of course, on altitude and many local conditions. In the oasis of Bokhara in July the temperature often falls from 48° Centigrade in the day to 20° and 25° Centigrade in the night, in the inhabited mountain valleys to 12° and 13° Centigrade, and in passes of a height of 4500 metres and more it practically freezes every night all the year round. At these altitudes there was ice on the pools and hoar-frost on the grass nearly every morning in the Bokharan Pamir. In the level country the caravans often march in the night on account of the heat, and rest in the day.

From the calm nights with the cloudless sky a very intense radiation results rendering the nights very cool, indeed; thus the temperature, especially in the desert, often sinks from 55° Centigrade to 18 and 20° Centigrade; but the radiation would be even greater if the dust absorbed in the heated air did not form a sheltering layer above the ground, serving much the same purpose as the clouds, but of course to a less degree than these. And even if the dust settles by degrees on the ground which appears from the clear nights and the layer of dust on the tent-cloth etc., it is ne-

vertheless of some use through part of the night. The renowned observatory in Samarkand has in former times had the benefit of the bright, splendid starry nights, so excellently adapted to astronomical observations. The nights are often embellished by numberless shooting-stars and meteors rushing across the sky like rockets of red and blue.

When August, and with it the hot summer and its many plagues and also its delights (for the bright sun is a necessary adjunct to the Oriental picture) is at an end, everyone looks forward with delight to the pleasant months coming. For we must not imagine that the natives are so used to the heat as not to feel its torments. Isyk! Isyk! Isyk koop! (it is hot, hot, very hot) is the general outcry heard from the native Usbegs and Kirghiz. They even seemed to me to be more plagued by it than the Europeans.

Autumn. In September the temperature, as a rule, falls one third of the number of degrees, and in October it goes down to half the degrees of August, so that, without being far wrong, we may estimate the average temperature of September to be 16°, 28° and 17° Centigrade respectively at 7 o'clock a. m., 1 o'clock p. m. and 9 o'clock p. m., and of October to be 10°, 22° and 12° Centigrade at the same times. September has, indeed, as yet a considerable number of cloudless days, thus in the level country even up to about 90 per cent of the days of the month, but on passing eastward the cover of clouds in the mountains goes on increasing. In October the cover of clouds increases very much, in several places in the mountains about 50 per cent. The torn veil of high Cirrus clouds occasionally covering the sky in the summer months grows denser in September, passes at the end of the month into a denser cover of Alto Cumulus and is in October replaced by the large decorative lower Cumulus. September and October in these subtropical countries are, as a fine autumn in the North, remarkable for a transparent clear air, the dust now settling on the earth. A more pleasant climate than that of Central Asia in these months is hardly to be found. The air is practically always calm, the atmospherical pressure of this part of Asia being very high except in the regions near the Caspian where low atmospherical pressures with cyclons are very dangerous to navigation.

The autumn air in Bokhara is mild and soft both in the level country and in the mountain valleys; even in the higher Pamir valleys, in Vakhan, Garan and Shugnan a temperature of 20° and

24° Centigrade at noon, a morning temperature at 8 o'clock a. m. of 6° and 8° Centigrade and an evening temperature at 9 o'clock p. m. of 12° and 13° is not rare, and in 1898 such a temperature continued even until the middle of October. And even in Khorok in Shugnan we had in 1898 no frost in the day until the 17th of November. But in the mountain valleys it freezes considerably in the night as early as the middle of September, and in the middle and at the end of the same month the snow-flakes whirl about the mountain summits in a wild dance; and on account of the great radiation night-frost is not rare in September even in the oases, the level country and in the steppes. As a rule the leaves do not begin to fall until the end of October and go on falling till the beginning of December; that is to say that the trees of the oases are bare only part of December, and the whole of January and February.

September is the good season for the grapes and the water-melons, and a journey in autumn in Bokhara is among the greatest enjoyments in spite of the cool nights. Wild fowl and game which have been but little observed in the summer again appear, and the air, steppes and mountain valleys are resonant with their voices. The desolate steppes are again for some time filled with the tents of the nomads and their herds, and camel- and horse-caravans are busy travelling from one oasis to the other. On all the flat roofs in the villages women and children in their motley dresses crowd to bask in the sun or to dry fruits. The light, the beaming sun-light to which, however, the whole country is indebted for its special character, is softened down in autumn and passes in November into winter-darkness. Autumn here is like the calm before the storm, which arrives here in the form of winter with its burans.

One dark side to the bright picture of the autumn of Bokhara is the increase of the fever, which is always most violent at this time of the year and especially in September. As long as the excessive drought of summer holds the microorganisms in check, the fever is mild, if precaution is taken not to be out in the oases at night; for at sunset the rice-fields and the irrigated gardens and corn-fields send forth a mouldy stench; but in autumn when the air becomes more humid, the fever breaks loose and often with great vehemence. Among the regions most haunted by fever Hissar, Kulab, Faisabad, the swampy regions on the Amu in the East Bokharan mountains are in the front rank, but also at Bokhara, Charjui, Garm, Kalai Khumb, Kerki and on the lower Amu the fever is gene-

rally inevitable, so that doses of quinine and arsenic solution are swallowed every day by many Europeans. The higher towns or villages are nearly all quite free from the fever, but in the level country and in the larger irrigated oases it often occasions a great rate of mortality among the natives, but seldom among the European travellers, by whom measures are always taken against it, while they are able to change place of residence at pleasure. When driving in the level country I always observed that in the steppes fever was out of the question, but on traversing an oasis where the passage did not take more than an hour, the fever appeared and vanished again as soon as I had reached out into the steppes. There is according to the researches of recent years no doubt, but that the mosquitoes transfer the fever both directly and from one individual to the other; but it is, on the other hand, a fact that one takes a fever also in those oases, where the mosquitoes do not play any part, and also near salt-lakes and salt-fens where the fever is presumably occasioned by the putrefied salt.

Likewise as spring is the season of the flowers when oases and steppes are saturated with scent of flowers, thus autumn is that of the fruits when the bazars are filled with carriages loaded with apples, pome-granates, walnuts, water-melons and especially with the magnificent grapes, unsurpassable as to size and flavour.

Winter. In November and December the mountains are by degrees covered with snow everywhere, and the valleys in Pamir, Garan, Shugnan, Roshan, Darvas and Karategin become filled with snow, so that the cultivated spots are only caught sight of by means of the naked tops of the fruit-trees, willows and poplars which rise above the low snowed up stone- or clay-houses which look like waves below the snow-cover. In Vakhan, however, there is, so to speak, no snow in winter, because it is here swept away by the west-wind. All passes both in Pamir and the East Bokharan mountains are, as a rule, completely barred by the snow. But in the large oases, Karshi, Shahr-i-sebbs, Hissar, Kulab, Baldshuan, the regions on the Amu Darya in Afghan Turkestan and in the westerly level country there is not much lying snow. In Bokhara and Charjui the thickest layer of snow is generally 30 and 40 centimetres, and the snow rarely lies long on the ground at a time.

In the mountain valleys running east-west cold winds with sudden snow-burans are frequent as in the level country, but the snow is soon swept off; but in valleys running north-south heavy snow-

storms, so heavy that one is hardly able to see one's hand before one's face, are common, especially in the Pamir valleys in December and February, and for weeks a dense frost-mist often fills up the valleys up to the fixed height where wind and sun can chase it away. This mist phenomenon affords a curious sight in many places in narrow ravines. In the bottom of the valley one rides through an intransparent cold mass of air, so cold that horse and rider become covered with ice all over. On ascending higher, it is often sunshine, and below is seen the misty mass, quite even above, which makes the valley look as if it were filled with milk. Of course, the phenomenon itself is only seen in valleys where the air is calm; especially in Garan these steady mists are typical, and the matter is easily explicable as the heavy cold masses of air sink down into the valleys and remain there, so that it is warmer on the higher mountain slopes than in the valleys themselves. The German proverb: "Wenn man im Winter steigt um einen Stock, dann wird es wärmer um einen Rock", agrees in this respect very well with conditions here; but of course only up to a certain altitude.

In the highest mountain regions the frost is extremely severe. The mountain brooks are often frozen to the bottom, and the same is the case with lakes where the water is low; and consequently the brooks afford an extremely fantastic sight; even the Pandsh river freezes in Vakhan and especially in Garan in spite of its rapid course, so that one can walk across the waters which are piled up into waves and hills. The desert itself has also very severe winters, and even if a great many saline lakes are not frozen up even at 20° Centigrade below zero, all fresh waters become covered with a thick coat of ice. Smaller rivers are often frozen up to the bottom in winter where the water is shallow; the further flow of water runs across the ice, freezes again and in flat regions of the desert the ice tears off fragments of rock and drags them along, which is of great geological interest, as large blocks can be removed in this way without it being necessary to explain the phenomenon by means of a glacial age. In deserts and steppes a few territories do not freeze, even if the temperature is very low; this phenomenon is due to a great degree of saltness in the upper strata.

It may be said as a rule that the frost begins in November everywhere, and then the ponds in the oasis of Bokhara freeze; the soil rarely freezes more than to a depth of about 80 centimetres, and even in the higher mountain regions only to a depth of a little more than one metre. A winter phenomenon, very common in No-

vember and March, are moon-rings; with their reddish green circle, often of an extent of 20° and 30° round the luminous disc, they terrify the inhabitants and in spite of their frequent and regular appearance they are looked upon as a bad omen every winter. They are due to the refraction of light in more humid strata of air. During my travels I always observed increasing moisture of air in the valleys on the appearance of these moon-rings.

Winter storms, burans, from the north and north-east are sometimes rather frequent and often very violent; if they last into spring, they delay the harvest or reduce both its quality and quantity.

The limit of perpetual snow in the East Bokharan mountains has not everywhere the same altitude. In general it can be said that the snow-line rises proportionately from the north to the south and from the west to the east. In Alai and Karategin its altitude is about 42 metres, in the East Bokharan mountains on the north-side of the mountains 36000 and 37000 metres and on the south side 4000 and 4200 metres at a rough estimate, while in Pamir its average height may be said to be 5000 metres. In the narrow ravines, inaccessible for the sun or nearly inaccessible, the perpetual snow, however, often forces its way considerably lower down, thus in Roshan even to an altitude of 3800 and 3900 metres.

Winter is a dreary season for people in Bokhara. Even the rich fell chilly in their badly heated houses and in the open air in spite of their thick fur-cloacks. The mountain valleys and their towns are cut off from one another, a heavy, dark icy air lies over the level country, the poor and the cattle often die for want of food and from cold; for the Orientals do not collect provisions for themselves and their cattle. The caravan travels are suspended, the traffic with gemas on the Amu has ceased, and the bazars are dreary and cold. All life seems to have become extinct, until the spring sun again reanimates the realm of the Emir.

4.

VEGETATION IN BOKHARA

THE vegetation has occasionally been dealt with above, but in the following a shorter survey will be given.

Characteristic of all regions in Bokhara from the highest valleys in West Pamir to the lowest plains on the Amu Darya is the absence of forests. Hardly any collection of trees in the whole of this extensive territory deserves the name of wood in the European sense of the word. There are only fruit-trees, small groves, jungle and in a few places in the level country on the Amu Darya larger collections of tamarisks, one metre high.

For timber and fuel Bokhara is extremely badly off. Timber is employed as litttle as possible for houses, and for fuel, one of the comparatively most expensive articles in Bokhara, manure is used to a great extent and in many places collected with the greatest diligence. It is formed into cakes and pasted on to the roofs and outer walls of the houses, giving the houses the appearance of being strown with boils, and it is then dried and stored like a sort of patent fuel.

Refuse from the cotton is moulded and used in a like way in all larger oases. In the higher Pamir a sort of lavender with woody root and a great dry crown is used much for fuel, and in the steppes the tamarisk here and there supplies the place of this lavender. Forests have hardly ever occurred in these regions to any great extent, but that they have been larger than now is clearly seen in several places in Karategin, Darvas, Roshan and Shugnan where exhaustive mismanagement and destruction of the groves has taken place. The climate may also possibly have changed and in many places in all probability within historical times; but this matter ought to be more thoroughly examined than has been the case up to the present date.

Parallel with the snow-line in the mountains and at a distance of 15 and 1600 metres runs the line that forms the boundary of the upper cultivation where, however, the higher or lower latitude and local conditions may occasion a sporadic deviation, and the upper limit of growth of trees and woody bushes generally goes together with or is a little higher than the limit of cultivation. Likewise as the snow-line rises from the north to the south and from the east to the west, the same is the case with the treeless limit. A characteristic example is afforded by the trees growing at the highest altitudes: the willow, birch, sandthorn, wildbriar and the juniper (Juniperus pseudosalina) which is distributed over the whole Central Asiatic mountain region. Where groups of these trees grow, the treeless limit must be said to run, even if a sporadic occurrence may be observed in higher, sheltered valleys in Desert Pamir. Thus tamarisk and willow grow at Karasu (Yömantal) north of the pass of Nesatash, at Yashilkul together with wild roses and also on the Pamir Darya at Mazar-tepé.

In Vakhan juniper, birch and wild roses begin at a height of 3000 metres, on the Pamir Darya at Yolmazar (The tomb Road) at the same height, on the Alitshur-Gund even at an altitude of 3950 metres on the outlet of the Great Mardyanai into Yashilkul. In Hissar juniper only appears up to an altitude of about 3000 metres, in the Kizil-su-Surkhab valley to 3400 metres. On coming from the east from the Alai-steppe which is devoid of tree growth, probably more on account of constant wind than on account of the altitude, the first sandthorns and willows are met with at an altitude of 26—2700 metres. On the river Muksu juniper and birch grow at an altitude of about 2900 metres.

The treeless limit is highest in South Pamir on the Garm-chashma-darya, and on the Shakhdarra juniper and willow grow even at altitudes of about 4000 metres.

Conifers do not occur at all, and the mountains present on the whole a naked and cold picture. The foliferous trees of which there are small woods are willow, poplar, asp, ash, birch, maple, wild mulberry, apricot, pear, apple, walnut and pistachio. The underwood consists of roses, black-currant, gooseberry, raspberry, hippophae and honeysuckle. Among these willow and poplar principally grow in small groves.

Somewhat more wooded than the Pamir mountains are the East Bokharan mountains. On the lower spurs grows pistachio, thus especially on the north slope of Babatau and on the most extreme

branches of Baissun-tau round Shirabad. Maple and shrubbery enliven the mountains between the Vakhs and Baldshuan. Below Kurgan-tubé are togais (woods) of willow, poplar and large Celtis, further saxoul and djigda (Eleagnus), precursors of the vegetation in the Amu Darya steppes. In the ravines on the Vakhs-Surkhab from the Alai steppe to Kurgan-tubé grow first juniper and tamarisk, and then all sorts of willow, poplar, barberry, prunus and clematis. In Karategin nut, apple and pistachio grow wild, but the peach, apricot, grape, apple, pear, quince, valnut and mulberry by which the kishlaks are overshadowed are cultivated. A like vegetation as on the middle Surkhab is seen in the Khingau valley; the Khovaling valley is partly covered with wood and on the river Aksu or Kulab are groves of poplar, maple, nut, juniper and a few birches, as in the country to the south of the Childarra and Tevildarra.

In the Hissar mountains nothing is seen but juniper. But south of the Pakshif pass a luxuriant vegetation of juniper, birch and wild fruit-trees is met with on the river Sorbukh. Near Kalai Khumb in the Pandsh valley there is a rich growth of platanes, maples, almond and pistachio trees, and in the ravines through which the mountain brooks run down to the Pandsh their course is fringed by wild fruit-trees, maple, ash and birch. In the valleys of Shakhdarra and Gund are dense small groves of willow and poplar, often interwoven with clematis; the latter is typical of all the Pamir valleys, and in autumn the jungle on the river banks is covered with its down seeds. Typical of several lateral valleys of the Pandsh in Pamir, for instance on the Garm-chashma-darya and near Kuh-i-lal, are great quantities of umbelliferous plants, 1 and $1^1/_2$ metre high, which form low copses.

Above the treeless limit is the grass-region which in places to which the rivers do not convey water all the year round becomes dried up in early summer as in the steppes; only where the water continually oozes down from the perpetual snow do the plains keep green all the year round.

It is evident that a climate like that of Bokhara is extremely unfavourable to tree growth. The hot dry summer exhausts all moisture both from plains and mountain regions, the south side of the mountains is therefore in summer quite scorched, and only on the north side, apart from the river valleys proper, can the ground remain so humid all through the summer that trees can keep alive. Elsewhere trees and bushes generally thrive only on the river banks

in the mountain valleys and in the plain, and in the artificially irrigated oases. In the oases in the level country as in all the mountain valleys poplars and willows grow most frequently apart from the cultivated fruit-trees; they are as usual as the common magpie whose hoarse and harsh voice is heard from the highest Pamir valleys to the lower Amu Darya. Then there are huge elms, affording an excellent shade and looked upon as almost holy, and of late the Russians have introduced the mock acacia, now overshadowing the scorched open place where the station of New Bokhara with its 3000 inhabitants is situated.

But the lack of natural woods is made up for in Bokhara by the cultivated, by the mighty mulberry- and apricot-trees thriving in the fertile oases. The want of woods as an ornament of the landscape is not felt so much, because each oasis is one small wood of fruit-trees. Everyone in Bokhara is fond of fruit-trees and flowers, so that gardening stands very high. Through steppes, naked mountains and deserts one wanders from one wood of fruit-trees to the other; when the march is at an end, one finds shelter from the burning summer sun beneath the shadow of mighty willows, poplars, elms and fruit-trees by whose leafage the yellow clay-houses of the oases are often quite covered. Also here the contrasts are so strong that they make a deeper impression upon one's interest and feelings than more equal transitions elsewhere would be able to do. After passing the day in the hell of the desert, one rests in the evening in the cool orchards, the paradise of the Mussulman.

5.

ANIMALS IN BOKHARA

In spite of the many naked mountains, the absence of woods, the waste deserts and in summer the scorched steppes the fauna of Bokhara is very rich, consisting both of indigenous species and of migrants. Even if the desert with its scarcity of water and its burning summer heat does not tempt over many animals to settle there, there are some who prove able to adapt themselves to the natural conditions and put up with the high summer temperatures. A tight hair-fur, generally of yellowish colour, shelters the mammals from the dry air and prevents them from being easily discovered, and snakes and lizards dig their way into the sand like gimlets. Nor should one think that the woodless mountains would afford a home for larger animals, and still these live there in considerable numbers. The high mountain regions with their many intricate ravines and confused heaps of fragments of rock afford sufficient refuge, and the high and steep slopes facilitate in themselves the escape of the nimble animals. The jungles on the Amu Darya and many other rivers, these entangled, thorny, often impenetrable copses, and the reed-woods are good lairs for many animals.

Typical of Pamir is the wild breed of sheep, the arkhar, Ovis Poli, called after the renowned Venetian traveller, Marco Polo. It is found everywhere in Desert and Steppe Pamir, but also in the northwestern Pamir on the sources of the Muksu, Khingau and Vandsh; it does not live farther west. I saw large flocks of this splendid animal on my way from the pass of Kizil-art (Red Pass) to Yashilkul. They are exceedingly shy and rarely go down to an altitude lower than about 4300 metres when not forced by the snow. Their pastures are at a height of 4300 and 5500 metres. In the morning we saw them grazing on the green spots where the water oozes down from the perpetual snow. It requires much patience on the part of the hun-

ter, to get them within gunshot, it chanced that some passed close by my caravan on their way from one mountain slope across the valley to the other, but before there was time to shoot, the splendid, nimble animals were beyond our reach. It was, indeed, our principle not to kill game without cogent necessity, our delight in seeing it alive and in activity put us out of conceit with displaying our ability in shooting. The specimens which I brought home to the Zoological Museum in Copenhagen were shot at a distance of no less than 800 and 900 metres. They always live in flocks; especially in Alitshur Pamir I saw them in flocks of 20 and 30, and they are very numerous; the great many shed horns show this clearly to whoever like myself and many others has not had the opportunity to see them by hundreds. The Kirghiz call the Ovis Poli "Kutshkar"; a smaller species, Ovis Karelini, whose habitat is farther east, is now and then seen in Pamir, and there are said to be a few other species of the arkhar in the Serafshan mountains.

The Ovis Poli is a very stately animal; his size may be that of a Norwegian pony, and he has large twisted horns like those of a ram. His skin is more like that of an ox than a sheep; the coat of hair is very abundant and two or three inches thick, for which reason the skin is used much by the Kirghiz for fur-cloaks. At about 40 degrees below zero I slept for weeks on the snow in Ovis Poli skins as warm as in the best European bed. The Ovis Poli has a long beard and a mane of rough hairs round his neck. The colour of the hair is dark brown on the back, becoming lighter towards the belly. He carries his head very elegantly, and it seems remarkable that the comparatively thin neck is able to carry the gigantic heavy horns which often weigh about 100 pounds. Hunters say that when the animal cannot avoid his pursuer, he throws himself down the precipice on his horns in order to save himself in this way. Ovis Polis weighing 600 pounds have been killed in Pamir, and horns have been found of the length of 1,66 metres, where the distance between the points was 1,35 metres. Several of the horns brought home by myself measured 1,30 and 1,40 metres.

A species of goat in Pamir which especially lives West Pamir from the Shakhdarra and farther north up to the Alai chain and in the East Bokharan mountains is the so-called kiyik; it is smaller than Ovis Poli but often comes near to it in size. Some specially large specimens were killed by the Second Danish Pamir Expedition in the mountains on the river Gund. His colour is generally lighter than that of Ovis Poli and he is of more

slender growth, but at some distance it is very difficult with the naked eye to tell an Ovis from a kiyik, if the horns cannot be clearly seen; those of the latter are bent backward as in the male goat. The two large species of animals seem to avoid each other's society; in my comparatively long experience I have never met them in the same pastures.

In the Bokharan Pamir valleys the kids of the kiyik are often caught and kept in captivity; I saw several at the Bokharan Begs' residence there, but everyone said, that it was never possible to make them thrive in captivity, where, by the way, they became as tame as dogs; they always died at a young age, and it is thought that like the yak they only thrive in the thin air high up in the mountains.

Among other larger animals are antelopes, deer and wild donkeys in the Bokharan level country where they are hunted by the natives with grey hounds. The antelope also lives in Pamir.

Among beasts of prey is the royal tiger. Magnificent specimens are found along the whole course of the Amu Darya where there are reed-thickets, from the level country south of the East Bokharan mountains to the Aral Lake. In 1898 such a pair had strayed into the oasis of Bokhara where they were killed after a violent fight which cost a Russian soldier his life and a few others their health. Such a visit is now and then paid to the oasis of Bokhara, and in the delta region of the Amu Darya several tigers are yearly killed which I had an opportunity of seeing during my stay in Khiva. Nobody ventures out alone into the reed-thickets if not armed with a loaded gun, but now and then it happens that a nomadic shepherd falls a victim to the tiger in these regions.

Bears are not rare both in East and West Pamir, but especially in the latter place where the Tadjiks on account of the bear are often afraid of going out in the evening. Still, I have never seen them in the valleys but often in Alitshur Pamir, on Yashilkul, in the high regions of Darvas and Karategin, and they are also met with in East Bokhara. During my travels I had an opportunity of seeing both of the two mountain species, and skins of both were brought home. Both species are comparatively small and no more shy than that they have pursued our sheep to be killed to the immediate neighbourhood of the camp, and while the guns were being fired at them they loitered away into the mountains hidden by the fragments of rock and never trying to put themselves in a opsture of defence. The larger is the light yellow bear, Ursus isabellinus,

belonging properly to the fauna of Himalaya, the other, Ursus leuconyx, is smaller and has a greyish brown, long-haired, but slightly hairy skin. They chiefly live in the thick juniper copses and the low, thick willow copses, also here and there on the upper course of the rivers and on the lakes where they are often heard growling, but it is not possible to find them out. In Karategin the Bokharan Beg told me that they were so numerous that they often made great destruction among the herds of cattle.

A beast of prey commonly found over all the higher mountain regions is the mountain panther, Felis Irbis, which I had an opportunity of seeing both in the juniper woods of the Alai mountains and in the Bokharan Pamir; he also lives in the East Bokharan mountains. He has a thick white fur with many black spots, a long body and a tail longer than his body; his build is much the same as that of the wolf. He lives in great numbers in Vakhan, Shugnan and Roshan and often attacks the herds of cattle. Together with the wolf he goes in winter down into the kishlaks after the cattle, and in 1898 it even happened that a wolf and a panther, hunting together, were killed in the cow-shed of a Tadjik in Khorok, one by the horns of the oxen, the other by the Tadjiks. As far as my experience goes the panther is also fond of staying in the juniper and willow copses where one day I saw a splendid specimen standing with his fore legs on a juniper branch while spying after the pigeons, but falling by my shot he did not succeed in catching them; Kirghiz and Tadjiks related that often they also met him high up in the mountains, where his haunt was among rocks and blocks of stone.

Several panthers are yearly killed in the Bokharan mountain regions, and the beautiful skin whose fur is uncommonly thick for a panther owing to his living at such altitudes, is often exposed for sale in the towns of the oases.

The common, greyish yellow steppe wolf with the short tail lives in great numbers both in the mountains and the level country. In Pamir he principally chases the arkhars, but in winter he may also be dangerous to human beings. The Kirghiz said that in winter the wolves in large packs often tried to bar their passage through the narrow valleys. In the winter 1898—99 we had always the wolves near our station in Shugnan. Several times they were even audacious enough to make an attempt on the life of the sentinel, trying to climb up the walls to attack him. The skin of the wolves is very much prized, especially for sleeping blankets. The natives who generally sleep on the ground on some carpets

declare that wolves' skins keep away rheumatism, a common complaint in these parts of the Orient. For a few roubles a good wolf's skin can be bought in the mountains and a good panther's skin for 6—8 roubles. The jackals especially live in inconvenient numbers in togais and jungles in the depressions on the Amu Darya south of the East Bokharan mountains, but, for the matter of that, they are met with everywhere.

In the mountain regions two species of foxes especially are very common, namely Canis vulpes and Canis melanotis, the steppe fox; more rare is Canis alpinus. The first two species are caught in great numbers in the primitive traps which the Kirghiz, Tadjiks and Usbegs make of elastic osiers and where the bait is placed. Skins of foxes are generally used as gifts by the natives. As sure as one is in summer of receiving sugar loaves as a gift from the Begs in Bokharan mountain regions, as certain a gift is a fox's skin from them in winter. The Kirghiz and the Usbegic nomads are experts at catching them as well as other game; leaving all other work to the women they indulge in the pleasures of hunting, time is no matter to them.

All foxes are comparatively small; they are more like the wolf in the colour of the hair than our red fox; they have an exceedingly thick, bushy tail, and in the mountain regions a long, soft, fine fur on account of which the skins are highly prized. Their price is from 50 to 70 copecks.

In the mountains the badger and the lynx are also common, and an animal which lives here in great numbers is the marmot, the size of which is that of our common fox. The marmot is met with in fixed places everywhere, either not at all or in numberless multitudes. In the Pamir valleys, in Alai and in Alitshur Pamir they might be counted by thousands in summer when sitting outside their caves. The ground was often quite undermined by these animals. They are very shy, only move to a short distance from the cave to graze, some of them always seem to keep watch, and the least sound heard always occasions the sentinels to set up a whistling sound which is repeated by all the animals who immediately disappear into the caves. When we lay down quite still, we could see myriads of them emerging from the holes, often so near that we could catch them with our hands; a slight clapping of the hands was followed by thousands of whistling sounds, and all the animals rushed down into the ground, but soon after their heads peeped out again. Their fur is thick, the colour dirty yellow, and they have a very disagreeable smell.

Martens, weasels, wild cats and the otter are also rather common everywhere, and there are many mice from the high to the low regions. Even at altitudes of 4500 metres we often saw mice in the tents, as soon as the camp had only stood on one spot a few days, not to speak of the steppes where the jerboa also lives. There are not so few rats. I have seen them at altitudes of even 3900 metres. Hares live everywhere both in desert, steppe and mountains. In the Bokharan mountains I often saw them in innumerable quantities above the treeless limit where the slopes among the blocks of stone were simply swarming with them. The species found here is very small, and they were generally so little shy that they could, so to speak, be taken with the hands. Such a hare-hunt with the hands alone was arranged by my servants several times, but very often they were obliged to let them run, because the animals pulled and tore so to get free, and then they had to use the gun instead of their hands. No Bokhara man condescends, however, to eat the hare, and my servants very unwillingly prepared this animal for me, looking at me with great disdain on my eating it. The wild boar has been dealt with above; he lives everywhere on the rivers, where he can hide in jungle or among rushes, from the uppermost Vakhan to the Aral Lake; only the beasts of prey keep his increase in check; for the population does not touch him.

The wild fowl is abundant both in species and individuals. I shall only enumerate the most remarkable. The large brown eagle has been mentioned above; especially in Pamir (High) and Karategin huge specimens are seen. Also the royal eagle is seen now and then in these mountains. Likewise vultures, but not in great numbers; travelling in all directions through the country I saw but a few now and then. On the upper Gund river I saw a couple of black vultures with white heads, but I have not seen any of this kind elsewhere in Bokhara. Falcons and hawks in large and small species are found everywhere in great numbers, and the latter are much used in hawking as will be seen later on. Crows with red and black bills live both in the mountains and on the plain, often in quite uncomfortable numbers in the oases where the large poplars and willows are full of their nests, and where their harsh voices at times render all conversation impossible. The beautiful blue and red roller is especially numerous in the level country where her harsh shrieks contrast strongly with her beautiful coat. The common magpie is found everywhere from the treeless limit down into the level country; where there were not other birds, the

magpie was sitting in the trees where she makes a great inroad upon the fruit. The large and pretty bustard was often seen in autumn on the steppes in large flocks, and numbers of pheasants live in the copses on the Amu Darya, on islands in the river and on several of its tributaries, where small ducks and geese are also found. In spring and autumn I saw large flocks of pastors and golden starlings in the mountain valleys, and in summer on the Amu Darya glittered in the sun lots of the many coloured, long-billed bee-eater whose flight is not unlike that of the bat, it is so curiously irregular owing to their always chasing flying insects. In spring on the steppes and on the rivers and in summer both in the mountains and in the level country round about the numerous irrigation canals the funny red-legged stilt-plovers are constant guests, likewise snipe, red-shanks and another species of snipe; on the Amu Darya are seen numerous herons, and all oases are full of storks, here a sacred or, at any rate, protected bird which makes her nests on the roofs of mosques and medresses which are generally quite covered with them and consequently with dirt. The natives call it "Lak-lak", and the Khivinians the nightingale of Bokhara in order to tease the Bokhara people whom they hate with all their heart. The nightingale "Bul-bul" is frequent in Khiva and also now and then in the oases of Bokhara, but lives especially in enormous multitudes in Turkestan where it was often impossible to sleep on account of its singing. Typical of copse and jungle are the titmouse and the green tomtit. The small beautiful hoopoe is seen everywhere near inhabited places as far up as the Pamir valleys in Roshan, and the oases of the level country and the lower mountain valleys swarm with turtledoves whose cooing is so typical of all the oases of Central Asia. There are wild pigeons, especially the blue rock dove, in all mountain regions in great numbers; they build their nests in caves in the slopes. The pigeons afford the traveller an easy access to provisions. There is a beautiful large species of partridge of a brown colour and with a beautiful spot on the wings; all over the oases she is kept in cages as an ornamental bird, and in the mountains there is a smaller species of fowl, a sort of stonehen of an inconspicuous, brownish grey colour. Everywhere in wood and copse outside inhabited places, especially in the juniper copses, the cackling of the partridges is always heard. In Roshan I shot several of them high above the treeless limit just below the perpetual snow. In spring and autumn the quail lives in the steppe, and in summer on the water-courses; a small spe-

cies, the so-called Bedannah, is in great favour with the natives, they thrive very well in cages and become tame very soon. A small cage of plaited, motley yarn in which there was a large partridge or a small quail was rarely absent in the chai-khanéhs of the oasis towns. In the steppe live sand-grouse of a yellowish colour. In spite of the considerable quantities of game it is not much hunted for food among other than the nomadic tribes. The yield of the hunting chiefly consists in skins. The flesh of antelopes, deer, arkhars, fowl, ducks, geese and especially pheasants is, indeed, eaten with great pleasure by the nomads; but not much by townspeople on account of religious scruples. On a hen being, for instance, shot flying, they say that it cannot be decided whether she died from the shot or was killed in falling, and in the latter case she is "Haram" or "Mekruh" and consequently according to the Koran prohibited food; thus it is very difficult for a believing Mussulman to support life by hunting. The nomads: the Kirghiz, a few Usbegs and Turkomans, and principally the former who are not scrupulous about the prescriptions of religion—the Kirghiz do not care a bit for them—are the hunters of Bokhara and furnish the fairs of the towns in the oases with skins and fur for which they have also much use themselves.

In the oases the bats often appear in enormous quantities, as mentioned above, and when the bats are out in the evening, the frogs in the rice-fields and in the fens commence a croaking so loud that sleep is often out of the question. The frogs are among those amphibia who live highest up in the mountains in these regions, as high up as on the lake of Yashilkul where they gambolled in the hot water streaming down to the lake from the warm sulphureous springs. Numerous serpents, principally species of snakes, but also smaller venomous serpents live in the oases where we saw many in the region of the rice-fields. They live both in the level country and in the highest inhabited regions in Vakhan. In the town of Kuh-i-lal in Garan there were such lots of them in the summer 1896 that it was simply horrible to be encamped with the tents on the grassy terraces. The natives are in great fear of the serpents in the oases, but the Mountain Tadjiks are not afraid of them, saying that these animals were quite harmless which is indeed correct. As hinted at in the chapter on the climate the country is rich in insects; in spring the steppes swarm with beetles, butterflies (Kupalak), bees, horseflies, wasps and mole crickets; cockroaches and crickets are too numerous in the houses of the

oases, and in inhabited places one must beware of scorpions; the latter are generally hidden away in roofs, walls, heaps of stones, in burial grounds etc.; in several localities where we were encamped in the Pamir valleys, we had to sweep the ground clear of these inconvenient animals before putting up the tents, and even then we could find them on the rafters of the tents and in our sleeping blankets. An insect typical of all copses and jungles is the spider; an endless number of smaller and larger specimens lived even in the high regions of Pamir in the highest copses of willows where they were often the only representatives of fauna. Of a very large species of a yellowish brown colour and hairy, as large as a humming-bird, I saw several specimens in fruit-trees and corn-fields in Darvas. Many spiders are venomous, and these together with the scorpions and mosquitoes mentioned above are among the most disagreeable creatures peculiar to these regions. Add to this survey the numerous tortoises and lizards of the steppes and fens where there are small and beautiful specimens, with red and yellow flaps of skin on the head in the mountain regions, large green ones in the fenny regions, and in the desert some about one metre long, (I saw many of the first named kind in the valleys of Vakhan and Garan) and I think I have enumerated the most characteristic animals.

6.

THE INHABITANTS (RACES, TYPES, LANGUAGE)

THE different conditions under which the population of Bokhara lives are clearly shown by the records above. Where there is loess soil on the plain, where the river banks in the mountains are broad enough, where there is an arable terrace in the wooded regions of the mountains, farming is carried on, as far as the artificial irrigation reaches; here are towns and villages among whose inhabitants the soil is equally divided, and if the arable territory is large enough, agriculture is the only occupation, and the population is sedentary. The arable territory is, however, not always large enough to feed those who have grown up here in the course of time by agriculture alone, wherefore a more considerable cattle-farming than can be carried on in the cultivated land, must of necessity be resorted to. The cattle have to find their food in the grass on the border of the oases which grass is nourished by the moisture oozing out from the oasis together with the snow and the winter rain, or they must be driven up into the high-mountain regions where perpetual snow and glaciers often keep the vegetation alive throughout the summer on extensive slopes which owing to their steepness, heaped up blocks of stone or a too severe winter are not adapted to a constant residence. These circumstances cause half-nomadism; the inhabitants have their winter residence, kishlak, and their home in the cultivated region, but in summer the younger people and the women move up to the mountain pastures with the cattle to live in the primitive summer villages, ailâk or yailâk, from which they return again in autumn. The half-nomads cannot, however, go too far away from the kishlak, both out of regard to the men who are often obliged to stay now in the kishlak where the old and feeble are left, now with the herds in the mountains, and because the soil, the irrigation and the harvest in the kishlak must be looked after;

they have to see to their herd, women and children so that there is a steady connection between kishlak and ailâk without which one part could easily be lost through assault, theft etc. They lead a sort of occasional nomadic life.

On the wide steppes at the inclination of the mountains towards the west, on the banks of the Amu Darya, in mountain valleys where the irrigation is insufficient for agriculture, or where large mountain regions, too steep or filled up with rolled down mountain material or subject to unfortunate climatic conditions, cannot be cultivated, there the inhabitants are exclusively nomads. As the plants are able to adapt themselves to their habitats, so can also man, but it must be observed that the force of inherited tradition makes him often turn a deaf ear to the commands of nature. Usbegs, Kirghiz, Karakalpaks, Turkomans, nomads from time immemorial, hold, indeed, this mode of life in highest esteem, wherefore the greatest number of the nomads are of these races, but nevertheless they do not make light of agriculture where an occasion is offered, being occasional agriculturists and half-nomads, the latter in a way contrasting with that recorded above, and the Tadjiks, the traditional agriculturists in Bokhara, are both in the East Bokharan mountain regions and Pamir half-nomads or even regular nomads under special circumstances. Therefore nomadism cannot be said to be restricted to a fixed race.

The population of Bokhara has never been counted, the Mahomedans objecting very much to a census. Presumably there are 3 or $3^1/_2$ millions. According to some authors the population of Bokhara is exceedingly heterogenous, but this theory is very misleading. There are mainly two races, the Persian or Tadjiks, to which can be referred, at any rate, the numerous descendants of the Persian slaves once introduced into Bokhara by Turkomans — from a linguistic point of view, but also typically — and the Turkish race or Usbegs, now the governing class. The other races living in Bokhara are in number so inferior to these two nations that their presence does not impart any special character to the country. The Arabs, Kirghiz, Karakalpaks, Jews, Turkomans, Hindoos, a few Afghans, Armenians, Gipsies do not live in Bokhara in greater numbers than emigrated families in many European countries. That the population in the town of Bokhara itself is seemingly heterogenous and, indeed, only seemingly is no more remarkable than that the population of other large towns has a certain cosmopolitan appearance owing to the many foreigners who go to

the place from the neighbouring countries for the sake of business; for Bokhara is a wholesale trade town in Mid Asia, a central point where all articles of trade from the south, north, east and west are stored.

In the regions in North Bokhara, on the Amu Darya and in East Karategin nomadize some Kirghiz tribes, Kasak- and Kara-kirghiz, near Charjui and Denau some Karakalpaks who are also sedentary; along the Amu Darya from Charjui to Mazar-i-sherif and the western level country no small number of Bokharized Ersari-turkomans lead partly a nomadic, partly an agricultural life, and on the frontier towards Afghan Turkestan some Afghans are partly agriculturists, partly merchants. The few Arabs in Bokhara at Kermineh and Katta Kurgan and at Eldjik on the Amu Darya are remnants from the Arab religious invasion in the 7th century. The Hindoos, who are bankers especially in Karshi and Bokhara, are not numerous and never settle in the country. Finally there are from olden time some Jews both in the capital and in other larger towns and a few Gipsies who deal in horses, and some Armenian merchants. The foreigners mentioned here must be looked upon as a sort of guests in the Emirate whereas the population, characteristic of the country, and those with whom one has to do everywhere are Tadjiks (Iranians) and Usbegs (Turks).

These two nations live next door to each other in Bokhara, and although some regions are occupied specially by one or the other race, still one may in a shop in the bazars meet with a Turkish speaking Usbeg beside a Tadjik who speaks Persian; in the villages one farmer is a Tadjik, and his neighbour an Usbeg. In the western parts of the East Bokharan mountains an Usbeg nomadizes beside a Tadjik, and in the village the Kasi is generally a Tadjik and the Aksakal an Usbeg. The two nations live side by side, often without understanding each other's language. Some authors have apart from the two nations set up a third one as a mixture of the two, namely the Sarts, in whom the Iranian element is said to be predominant; but such a classification cannot be made. The word Sart has only to do with the mode of life meaning something like sedentary in contrast to the nomad. It is generally employed in speaking of the population in Turkestan where both Usbegs and Tadjiks call themselves Sarts; but in Bokhara the word is rare, and if used both the Tadjik and the Usbeg calls himself Sart, whether nomad or agriculturist; the name of Sart is then considered as the title of a man who thinks himself to belong to a

higher class than the despised Kirghiz, Karakalpaks, Hindoos, Jews and others, who in their opinion are a shabby set of people. The development of the word Sart is different from that of Ormuzd which has deteriorated. Sart is said to be originally a nickname or term of abuse employed by the nomads against the sedentary people; now even sedentary Kirghiz in Turkestan are fond of calling themselves Sarts.

The Tadjiks are the original inhabitants in all the towns of Central Asia. This sentence reappears in all books of travel and geographical works on Bokhara and its neighbouring countries. The fact is, however, that we do not know anything about it. As mentioned in the chapter on religion it is not only probable, but unquestionable that the Tadjiks have superseded another people from Bokhara and most likely a Tartar-Mongolian people. If the Tadjiks have proceeded from the west, probably over Khorassan, they have expelled the Tartars towards the east and north-east beyond the Sir Darya and Tshu towards the Altai mountains, and from here the Tartars (Usbegs) reappeared when a favourable opportunity, caused by internal decay in the Tadjik dominion, made the conquest of their former territories possible. For long before Islam made its way here in the 7th century, the Usbegs were the masters of the country, and this they are even now.

The Tadjiks are, however, the oldest historical agriculturists in Bokhara who have influenced and still influence the culture in spite of their being now in subjection. To them is due — at any rate according to the legend which is here certainly true — the irrigation of the oases and the regular agriculture which was holy in the Avesta faith like cattle-breeding. They represent and represented the intelligence of Bokhara, and even now they look upon themselves as the original inhabitants of Bokhara and upon the Usbegs as usurpers who have overrun the oasis of Bokhara from the countries towards the north-east round the Altai mountains and from Turkestan over Samarkand and Shahrsebbs (Shahar-i-sebbs) have forced the Tadjiks towards the east into Karategin and the Pamir valleys south of this region which are now practically inhabited by Tadjiks. This is, indeed, consistent with the fact that Tadjiks live in great numbers in Afghanistan and Belutshistan. It is well known that the Turks destroyed Balkh in the second century, and if this invasion has been efficient, it is probable that the Tadjiks owing to a strong pressure from the Turks, have been forced into the narrow and poor valleys in West Pamir to which no agriculturist resorts if not

obliged to do so, and the Arabian invasion during which Islam was spread over Central Asia has caused a further expulsion of the Tadjiks towards the east. They adhered, however, to the old Avesta faith, the fire- and light-religion, which they sought to maintain in the narrow valleys in Pamir fortified by nature.

The Beg of Charjui in full dress (brown velvet with go d-brocade).

The Tadjik is in Bokhara proud of his nationality, and even now he recalls the frontiers of his former country, the old Khorrason (Khor means in Old Persian sun and son region i. e. the region of the sun or the east). The Tadjiks have pro duced the most renowned teachers, the first statesmen and officials; nearly all mullahs are Tadjiks, and all intellectual culture is with the Tadjiks, but at the same time also the greatest vices. In the oasis of Bokhara itself the Tadjiks are in the majority; then they live in great numbers on the middle course of the Serafshan; in Karategin, one of the best mountain provinces of Bokhara, the Tadjiks are the main population, and they inhabit the provinces of Darvas, Roshan, Shugnan, Garan and Vakhan, further they live more collectively in the oasis of Shirabad, whereas the Usbegs are the main population in Hissar, Karshi, Shahrsebbs, Kasan, Husar, Kerki, Charjui, Chiraktshi, Kulab etc. The number of Tadjiks in Bokhara may be estimated at one fourth part of the whole population.

The word Tadjik may mean Arab, and some natives themselves

say that they are descended from Babylon. It is, indeed, correct that during the persecutions of which the family of the Prophet were the object under Haijai in the last 25 years of the 1st century after Hedshra, many members of the latter fled to the regions beyond the Oxus, and there they became mixed up with the native population, and therefore it is possible that a few Tadjiks have a right to carry their pedigree up to these and consequently to the Prophet on account of which they receive the title of Saïd or Saït; but much more cannot be ascribed to this. In Afghanistan the Tadjik often goes by the name of Dikhan (farmer) or Dihvâr (inhabitant of a town), but in Bokhara these designations are not reserved to Tadjiks alone, but are used of all cultivators of the soil or those belonging to the sedentary class.

If we refer, however, all inhabitants of Iranian descent to the Tadjiks which is justified by the fact that every Iranian in Bokhara calls himself by this name, it is necessary to divide the Bokharan Tadjiks into two classes, namely the mountain Tadjiks in the East Bokharan mountains and the Pamir valleys, the purest races of the original old Iranians, because they have avoided intermixture with the Usbegs into whose families they do not marry, even if there might be occasion in some places, and the Tadjiks in the oasis of Bokhara and in the level country who are much intermixed with Turks, and the numerous slaves introduced from Persia; although they are Iranians the latter have received many foreign elements.

Several authors relate that the Tadjik in Bokhara is often called Parsivân or Parsiân, but it must not be forgotten that if an Usbeg in Bokhara calls a Tadjik or Iranian Parsiân, it is his intention to give him a contemptuous name, something like godless man, meaning by this that he adheres to the Shiitic religion, either officially or in his heart, that he buries his dead in a Shiitic way etc., to which the orthodox Usbeg objects so much that he names the word Parsiân only with a certain shudder; for the Sunnits in Bokhara look upon the Shiits as standing far below the Russians (Urus), whose numerous images in the churches are an abomination to them, and other Christians. When the Usbegs asked me whether we had also pictures in our mosques and when I answered that ours were nearly as devoid of pictures as the mosques in Bokhara, they were very pleased. Representations of living beings are, it is true, forbidden in the Koran, and this is strictly maintained in Bokhara; Chinese and European pictures are confiscated by the clergy and especially by the Raïs. I remember the caution with which a Jew showed me one day in

the street in Bokhara some, for the matter, indecent pictures that had been introduced by his relations from Paris, he looked about him incessantly to be on his guard if the Raïs or a priest should appear, in which case such a jest would cost both a sound drubbing and heavy fines. Although it is commonly said that there are but few of the original Tadjiks left in the oasis of Bokhara, still the Usbegs know how to distinguish those considered as Tadjiks and those thought to be Persiân. Of the latter about 40,000 families are said to have been led to Bokhara and Samarkand as early as under Amir Seid. Apparently all of them are Sunnits, but in their hearts Shiits, and even the present Divambegi of Bokhara, Djân Mirza Divambegi, every Bokharan knows to be in his heart a Shiit.

Bokharan woman (Tadjik).

The Mountain Tadjik (he is sometimes called Galtsha) very much resembles the present Persians with their oval faces, sharp, beautiful features with large, straight nose, which is sometimes, however, apt to assume a Jewish form, dark hair and rich growth of beard; but the features are coarser than in the present Persians. The difficult conditions of life in the mountains have rendered him agile, strong and persevering, and his isolation from the centres of the world have

kept him free from the many vices and disagreeable qualities which are characteristic of the Tadjiks of the lowlands. The Mountain Tadjiks are very peaceable peasants, half-nomads if this is necessary, but elsewhere they prefer to live exclusively on agriculture; they are very hospitable and ready to help, and every large house-owner, generally Kasi or Aksakal, has a special room, "Mehemân-Khanâh" (room for guests), where he receives the newly arrived strangers. Some authors state that slavery has never existed with them; certainly this is not correct, as the word kul (slave) is very well known here, but it is probable that it has not existed to such an extent as elsewhere in Bokhara where, in spite of the Koran, slavery flourished under Islam until the Russians conquered Central Asia. The Mountain Tadjiks have rarely more than one wife which is partly due to the fact that they cannot afford more; the women are not veiled, they are not strict Mahomedans, and especially here the customs of the Avestà religion hold their own.

Bokharan woman in silk caftan.

The Tadjiks on the plain are like their fellows in the mountains well-grown people; they are long skulled, have black hair and eyes. Nose, mouth and eyes are beautifully formed, the first rarely curved, but as a rule straight and much more prominent than in the Usbegs. The mouth is large, the same is the case with eyes and feet, and they are very hairy all over the body. The Iranian race is in the lowlands intermixed with foreign elements, especially Turkish, but the Iranian characteristics are nevertheless so well-marked that the Tadjik and the Usbeg are easily distinguished, the former being more elegant than the latter. He is polite, complimentary, more discreet than the Usbeg, but on the other hand shrewd and untrustworthy. He is very diplomatic and adorns his speech with

a torrent of empty phrases to avoid the matter which he does not want discussed, and it is not pleasant to have to do with him in money affairs.

All his ambition is to acquire, and he is not particular in choosing his means thus, for instance, in buying his office. If a merchant, he very soon discovers what the purchaser desires to buy, and how far down he can go with the price, whereas the Usbeg is more easily cheated. He is proud of his nationality but does not take any special interest in his country, but only in his being a Tadjik and having an easy competency. It is of no consequence to him whether Usbegs or Russians govern the country; he is a cosmopolite adapting himself easily to the changing rulers. The Tadjiks thought it very reasonable that the Emir should be deposed by the Russians, and they could not even understand that the latter did not force their religion and perhaps their language on the Bokharans. When the Tadjiks only retain their offices and trades, whosoever likes may reign.

Bokharan woman with the indispensable water-pipe, tea-pot and vessel.

This is the more remarkable as the Tadjiks hold most of the spiritual offices and consequently also the temporal, among the latter the command of the army. In spite of their indifference as regards religion they keep up the fanaticism in the population, but they do this, because it agrees with their material interests.

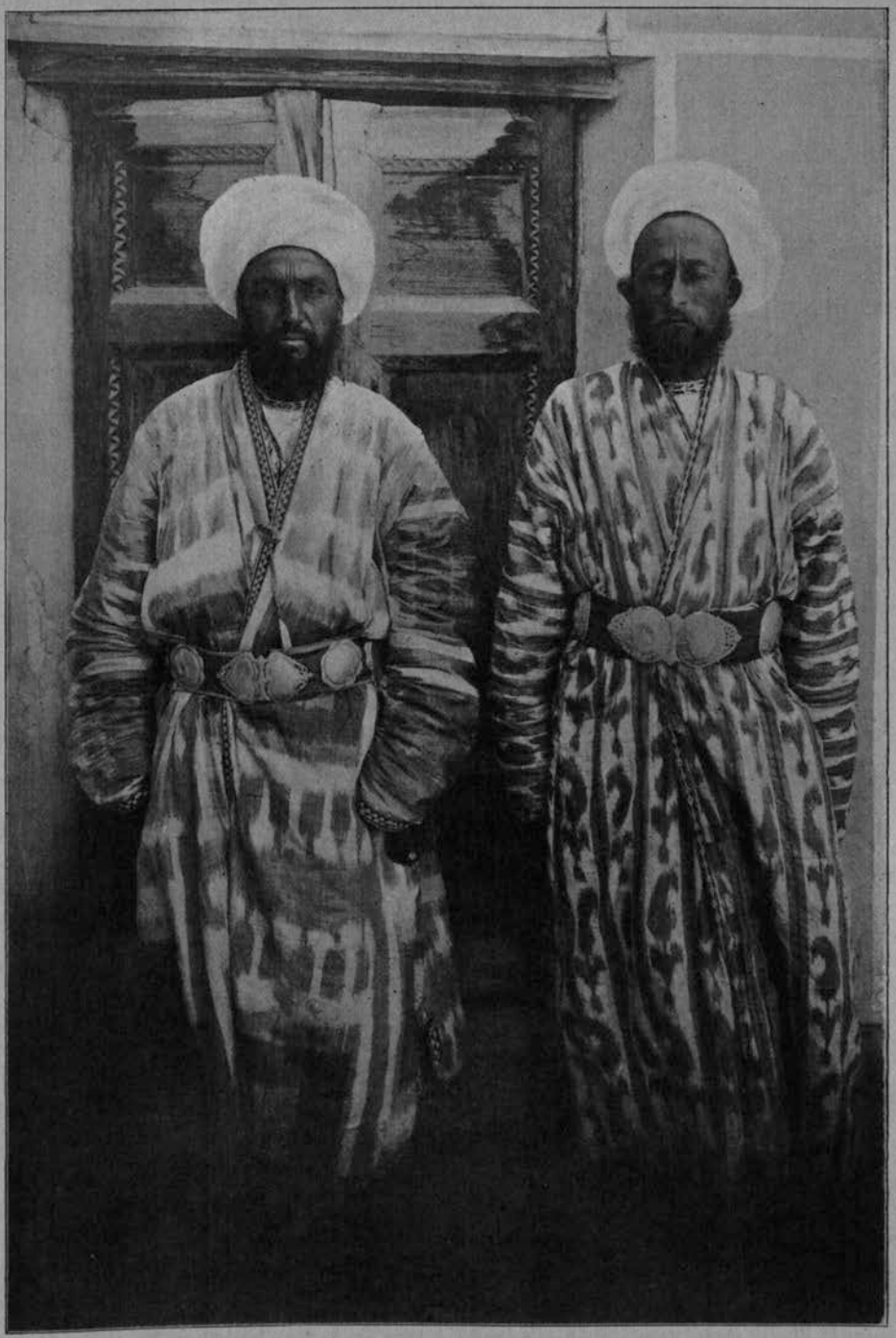
The Tadjik on the plain has no proper country, and the Mountain Tadjiks do not consider Bokhara as their country. They call themselves Karateginians, Darvasians, Shugnans etc. but the connection between these regions and Bokhara has not until lately become more intimate. In the level country the language of the Tadjiks is a Persian dialect differing no more from the present Persian than that by means of this language one may after a short time learn the language of the Tadjiks; the latter is, however,

greatly intermixed with Usbegic elements. Their language is the official language, that of the clergy and the cultivated, whereas Usbegic is more the language of the lower classes and the merchants in Bokhara. The farther south one gets from Karategin into the Pamir provinces, the more Old Persian is the language. In Shugnan and Vakhan entirely Old Persian languages are spoken which it is even difficult for the cultivated Tadjik from Bokhara to understand. Practically not the least tribal tradition exists among the Tadjiks; in genealogy they take very little interest.

Domestic life with the Tadjiks is more sympathetic than with the Usbegs. The man often spoils his wives to such an extent that they become quite articles of luxury, whereas among the Usbegs they must generally work hard. The children are brought up to show great modesty in their conduct towards their parents, but an Usbegic boy often scolds his father most terribly, which I have witnessed even with the Beg of Roshan and Shugnan, an Usbeg despatched from Bokhara by the Emir. The Tadjik is very fond of argument, of making long speeches, of negotiating; scolding frequently takes place, but they rarely come to blows, and murders and violent attacks are seldom heard of among the Tadjiks.

Their women are among the most beautiful in Bokhara; as with the Usbegs, their stature is always much smaller than that of the men; they have round faces, almond-shaped, large, black eyes, coal black hair, their complexion is pale because they always stay within doors or wear a veil before the face, and they soon become stout like the Persian women. Many Mountain Tadjik women are with their fine features real beauties. In Bokhara the Shugnan women pass for the ideal of beauty and not unjustly, especially from a Bokharan point of view.

The Usbegs remind one much of the Mongols, but have larger eyes and are better looking. Their features are coarse, the cheekbones are often jutting. The ears, as with all Bokharans, project, because the turban or fur-cap is squeezed so far down over the nape of the neck as to rest on the ears. Their limbs are coarser and clumsier than those of the Tadjiks, and their gait and bearing is inferior to that of the latter. The Usbeg is of middle size, generally smaller than the Tadjik, and the colour of the beard varies from red to black, also the colour of the eyes varies greatly. Like the men the women have coarse ungraceful features, they are treated as a sort of maid of all work and therefore become old still earlier



Two Bokharan Karaulbegis, my attachés during my stay in Bokhara in 1899.
The belts with plates of silver indicate their rank.

than it is elsewhere the case in the Orient. The Usbeg cares very little about his children. The Usbegs are the dominant race in Bokhara and to them belongs the Emir, a descendant of the house of Mangit. They keep up the old tribal division; the tribes are said to be 28, according to some authors 32, in Bokhara. In contrast with the Tadjik the Usbeg says: I am a Naiman, Ming, Ktai etc.; he always states his descent, and he knows his lineage as far up as the seventh degree.

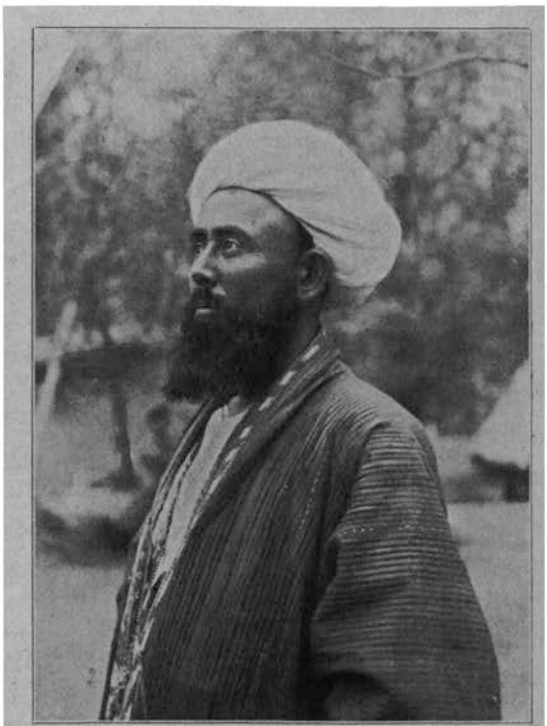
It is much easier for the European to deal with the Usbeg than with the Tadjik. He is straightforward, natural, honest. He is jolly and very fond of jesting, which is unfamiliar to the Tadjik. He is not narrow-minded and covetous like the Tadjik and more content than the latter; he is also more easily disciplined and therefore better adapted to military service than the Tadjik, more, however, as a subordinate owing to his slighter intelligence. Add to this that he is very trustworthy and upholds the precepts of religion without hypocrisy. The Usbeg is a rude fellow. He gives blows and beatings, but he also willingly receives them from his master, and even thinks them to be right and fitting. — The name Usbeg or Usbag or Øsbag, as Bokhara people say, is said to be derived from us = own and beg = master, one's own master or free-born; others derive it from Us or Gus which is said to be identical with the Turkish tribe, the Uigurs, and in Khiva where they are specially proud of calling themselves Usbegs, the word is said to be derived from a well-known chieftain, Øsbeg, who lived in the fourteenth century.

The Usbegs, who were nomads on their arrival here in the historical time, are now agriculturists in the irrigated oases, half-nomads especially in the East Bokharan mountains and nomads in the steppes where they live in their round felt tents in quite the same way as the Kirghiz whose mode of life they have adopted. Very few Usbegs are able to read and write; wherefore the well-to-do keep a Tadjik mullah as secretary and teacher of their children.

The Usbegic language, Djagatai, a dialect of Turkish, is the principal language in Bokhara; it is the language which is of most use for the traveller; for by means of this he cannot only converse with the Usbegs, but with many cultivated Tadjiks who as a rule understand Usbegic, whereas it is rare that the Usbegs understand the Tadjik language; and he may also very well make himself understood by Kirghiz and in part by Turkomans. Through Ottoman Turkish one very soon learns both the Usbegic and Kirghiz dialects, being here much the same, except that Kirghiz is inter-

mixed with more Mongol words. Some old Turkish words seldom occurring now in Ottoman have held their own here; but the principal difference between the Ottoman and Usbegic languages is that the vowel-harmony is not maintained in Usbegic so that both light and heavy vowels occur in the same word, and that all verbs, which in Ottoman begin with voiced g have k, thus, for instance, instead of Ottoman gelmek here kelmak, gesmek here ketmak, getirmek, ketirmak etc. Turkomans and Khivinians, however, have the voiced g like the Ottomans. The Usbegic language is greatly intermixed with Persian (Tadjik) and Arab words. (Se on this: A Vocabulary of the Dialect of Bokhara by O. Olufsen. The Second Danish Pamir Expedition. Kjøbenhavn 1905.)

Other nations in Bokhara related to the Usbegs, both as regards language and mode of life, are the Kirghiz, Turkomans and Karakalpaks, who belong to the Turkish or Turkish-Mongol race.



Mirza Abdul Kader Beg. My faithful companion on the First and Second Danish Pamir Expeditions.

The Kirghiz are nomads in North Bokhara and on the Amu Darya south of Petro Alexandrowsk, and in East Karategin. The latter are the so-called Karakirghiz, of the same tribe as those nomadizing on Russian territory from Alai downward through Desert Pamir. They call themselves "Kirghez", saying that the word is derived from "Kirr" meaning "poor steppe" and "gezmak", "to wander", so that the word means steppe wanderer. Outside Bokharan territory in Karategin they live most as half-nomads, having their kishlaks in the valley of the Surkhab and nomadizing in summer both in the Alai steppe and in the mountains in Alai and Transalai. The Kirghiz in North Bokhara, however, prefer calling themselves Kasaks which may mean freebooter. Neither appearance of the Kara-Kirghiz nor of the Kasak-Kirghiz is attractive. The face

is dark yellow, often quite pitch black in the Kara-Kirghiz, with jutting cheek-bones, the eyes are generally narrow, as if they had been cut into the face, and black, the nose is broad and flat, the legs curved owing to their being always on horseback or mounted on camels and yak-oxen. The gait is slow and shambling. The hair of the head black. Many shave themselves like the sedentary people. The Kara-Kirghiz have well-marked Mongol faces, are often of a really martial appearance and at the same time among the ugliest people met with in Central Asia, but the Kasak-Kirghiz are smaller of growth, and their faces come so near to the Usbegic type, and even to the Russian that it is often difficult to decide to which of these races they ought to be referred. The appearance of the women does not differ much from that of the men, and like the latter they are born riders. According to Kirghiz legends the name of Kasak is derived from an adventure which happened to one of their commanders on his passing with his tribe through the desert. During the march where there was lack of water the commander, whose name was Kaltsha Kadir, suddenly became so ill that he had to be left to his fate in the desert. When death seemed to be near, he raised his hands towards the sky praying for a rapid end; but then heavens suddenly opened, and a Kas-ak (Gas-ak), white goose, came down into the desert with water for Kaltsha so that he revived. Then the goose was changed into a maiden whom Kaltsha married, and from them the Kasaks are descended. They prefer the name of Kasak, but nevertheless they use the name of Kirghiz or Kirghez as a common designation of themselves and all their relations from Inner China to South Russia, and they have a legendary story about the word Kirghiz. "While governed by a Khan whose name was Alasha there were born among them some tiger-spotted children whom they thought to be descended from Satan himself, and whom they exposed outside the territory of other people. It happened, however, that the Khan's wife herself bore a tiger-spotted son, sheshek, as they were called, and now the Khan became so enraged that he wanted to kill both mother and son, but his vizier persuaded him to spare the mother and expose the son on the steppe where 40 maidens (kyrk-kys) were given him as a comfort, and from these are descended the Kirghiz." The origin of the words has given rise to many legends and scientific hypotheses, but none of the latter is evident.

The Kirghiz are generally rather good-natured and hospitable, according to my own experience, however, the Kara-kirghiz do

not seem to be remarkable for these qualities. The common trait of character is that they are cunning fellows, and one must be rather severe in order to get one's way among them. He is careless and content if he has enough to eat, very inquisitive, and he is willing to ride 100 miles to gratify his curiosity. In Karategin one may meet with Kirghiz who have been in North India, Kabul, Balkh etc., and many Kasaks make excursions with the caravans to Russia and South Siberia. The winter dwellings of the Kirghiz in Karategin are, as a rule, clay-houses in villages (aul), built in quite the same manner as those of the sedentary people, but the Kasaks always live in tents, wandering from one pasture to the other. All the Kirghiz are Mussulmans by name, but only those who live near the settlements attend to the precepts of religion, while the others are more like heathens adhering to their old superstitions in which sorcerers etc. play a great part.

The Turkomans, the tall, stately, free tribes who inhabit Transcaspia and are now partly subject to Russia and Khiva, partly to Bokhara, were formerly often employed as mercenaries by the Bokharan Emirs owing to their bravery. These who now live outside the Bokharan frontiers are Ersari-Turkomans, to some extent inhabiting the left bank of the Oxus from Charjui towards Balkh, but also nomadizing on the right bank near Karshi. As they are principally found on the banks where they live in their tents, they are, as a rule, called Lebab-Turkomans i. e. River bank Turkomans. Their faith is the same as that of the Bokharans and their mode of life so much influenced by Bokhara that they are practically merged in its population. Even the high fur-cap (chugerma), typical of the Turkomans is by degrees replaced by the turban. The Turkomans elsewhere speaking a Turkish dialect greatly intermixed with Persian words and different from Usbegic, come in Bokhara near to the Usbegic dialect of Turkish. The Bokharan Turkomans live most as half-nomads, but also exclusively as nomads. Even when agriculturists the tent is still their constant house.

Karakalpaks (from Kara-kalpak, black cap, fur-cap) the remnants of a mighty Tartar-Mongolian nation whose representatives are still scattered over an enormous territory, thus in South and South-East Russia, in Siberia, on the lower Amu Darya, on the eastern coast of the Aral, in the valley of the Serafshan etc., live in small numbers in Bokhara, namely as mentioned above near Charjui and De-

nau, where they live as agriculturists and half-nomads. Their language is a Turkish dialect, and in a way they are something between Turkomans and Kirghiz. They are tall, strong, peaceable people, not very intelligent. They are even looked upon as the dullest persons in Central Asia, and every Usbeg is ready to make fun of the Karakalpak on his appearing in the bazar. They play the same part in the popular mind as the Molboes in Denmark, the Gascons in France and the Suabians in Germany, and their existence as a nation must be considered to be at an end. In the eastern part of Russian Turkestan are relics of several old fortresses which are said to have belonged to them in former times when they were a mighty nation whose history is shrouded in darkness.

The Arabs. The few Arabs who live in Bokhara are descendants of the first conquerors who brought Islam into the country or of those immigrated under Timur. They live in the valley of the Serafshan near Samarkand and in Katta Kurgan near Vardansi in Bokhara and near Eldjik on the Amu Darya. Formerly they always lived in their tents in the old Arab way, but now they live in houses like the other natives, especially engaged in carpet weaving, cattle-breeding and horse dealing. They still speak a sort of Arabic and are easily recognized owing to their almost pitch black faces; large black eyes and black hair. They are looked upon as highly respectable people.

The Hindoos, Hindi, as they are called, can hardly be reckoned among the population of Bokhara, as they never become settled in the country, but immigrate in the capacity of merchants and bankers, and then go away again after having made a greater or smaller fortune. Their number is but a few hundreds, and they are now said to have been forbidden, by the interference of the Russians, to stay in Bokhara, probably out of regard to the use they might be as spies for British India.

They were, however, during my travels in the country a phenomenon which one could hardly help noticing. They stayed especially in the greater towns where one's attention was attracted by their thin, meagre stature, their smooth hair, their grave face where a black, red or white cross or a round circle (their mark of caste?) was painted on the forehead, their caftans of one colour tied round the waist with a string like those of the Jews, and by their small, black scull-cap. In spite of their small number and the oppression

to which they were subjected by the Government they had nevertheless, together with the Jews, usurped all money affairs in Bokhara. They were everywhere hated and looked upon as the worst usurers. No one conversed with them without cogent necessity, but their usurious operations were said to extend even to the Bokharan villages. At Bokhara and Karshi they had their own serais where they carried on their money trade, and the filthiness here was even greater than in the other serais. Like the Jews they were not allowed to ride in the streets nor to bring with them their families to Bokhara nor to buy women; they were forbidden to build temples, to erect idols or to walk in processions. They could not wear many coloured caftans, belts or handkerchiefs round the waist, but only a twisted string. They were, on the whole, considered to be a despisable and godless race, standing far below the Jews who are alloved to have their own synagogues, but, apart from this, they were not molested, strange to tell, probably because the natives feared them as a devilish set of people. They also go by the name of Multani. If the Russians have seriously set about persuading the Emir to turn out the Hindoos from Bokhara, they have certainly rendered a great service to the country.

The Jews. Here as practically everywhere there are representatives of the Jews. First and foremost they live in the principal town, Bokhara, then in Katta Kurgan and Karshi. Their number is estimated at about 4000; they are all of distinct race and very handsome; especially their women, who are unveiled, are among the most beautiful in Bokhara. It is not known with certainty when the Jews came to Bokhara. They maintain themselves that their ancestors immigrated into Bokhara in the 12th or 13th century proceeding both from Persia and from Tunis. To be sure, they have been here for several centuries and not, as in the opinion of Vambery, only a few. Their statement of the time of immigration agrees, indeed, with their statement that they lost all their written documents under Jenghis Khan. They no more speak Hebrew, but are able to read this language, and all their houses are decorated with Hebrew sentences, or with tables in the Hebrew language. They now employ the Usbegic or Tadjik language, but many of them are also able to speak French, Russian or German, and many of the apparently primitive Jews who looked highly archaic in the bazars in their caftans had visited both London and Paris. Here they are dealers in carpets, skins, wool, tea and manufactured goods,

silk dyers and street-sellers of all possible things such as precious stones, antiquities for the Europeans etc. In contrast with the manner in which they are treated in Russia itself, they are here protected by the Russians who have entirely extirpated the opinion formerly prevalent in Bokhara, that every native was allowed to beat a Jew, imprison him or hang him by the string, which he like the Hindoos is obliged to wear. That the Jews are unpopular or looked upon as a people more particularly belonging to the Evil one, and by whom one is easily contaminated is soon discovered by the traveller on his arrival at Bokhara; in the bazars they always walk several together, they have their shops by themselves and throw shy and timid glances at the Bokharan officials on their passing by. They are very curious, think every European to be their friend, and they immediately gather round him if he is not accompanied by any Bokharans. In Bokhara where I was always the guest of the Emir I could not easily help being accompanied by Bokharan officials who were both a sort of guard of honour and a sort of guard of police, watching closely all my doings; but during my long stay here I nevertheless often emancipated myself from them and walked about alone in the streets where I also visited many Jews among whom the rich Jews, Aron ben Ghasof and Isak ben Ghasof, who, in spite of their nationality, had made themselves esteemed both by high and low. But I both saw and felt clearly that I disparaged myself in the eyes of the officials and native merchants in visiting or speaking with the Jews, and one day when I wanted to call on a Jew together with my Bokharan friend and attaché from the Emir, Mirza Abdul Kader Beg, he most peremptorily refused to accompany me or even to come near the house, as this would be the same as the loss of his office.

In spite of the great oppression under which the Jews have always lived here, they have nevertheless been able to hold their own as peaceable artisans and merchants; and many of them possess great estates and fortunes to which even the Government of the Emir and its representatives resort in pecuniary distress. Within the district of Bokhara they are not allowed to ride in the streets, and in the villages of the oasis of Bokhara only on a female ass. They must always wear caftans of one colour or at any rate very quiet in colour and no turban, but a round fur-cap. Round the caftan they formerly always wore a rope as a sign of their being a sort of prisoners who could be hanged immediately if there were the least thing amiss with them. This rope has in the course

Jewish family in the town of Bokhara.

of time become thinner and thinner, and now they employ but a thin twisted string in order to render their stamp of pariahs as little visible as possible. This formal subjection has hitherto not become the least changed, but, according to their own saying, their position in society has now become even better and freer than that of the natives; they are of course very grateful to the Russians for this.

The Jews lead their life according to the precepts of the Old Testament; they keep their Sabbath, their feast of tabernacles, their Passover etc., they have their rabbis and overrabbis, and the circumcision of their boys takes place in the synagogue amidst great festivities. They never marry among other people although their women might be thought to tempt to this, and their race must be considered very pure. They live by themselves in a special quarter at Old Bokhara where their synagogue contrasts with their ample means, but this is perhaps due to their not wanting to defy the Government of Bokhara.

The synagogue is a common simple clay-house like the other houses in Bokhara. It is said to be 500 years old. It consists of a plain room without any trace of that architectural beauty which is found both in Isak ben Ghasof's and Aron ben Ghasof's private houses. It is about 150 metres square and is entered by a very narrow passage. In one end of the room is a reading-desk of marble on which are manuscripts and books. According to the legend there is among these a manuscript by the Prophet Daniel. A great number of Thorahs, copies of their doctrine, were scattered on a platform which is meant to represent their Genizah. These manuscripts are constantly rejected and renewed, for it is common practice that the Jews leave a sum to be paid after their death for the procuring of new manuscripts.

The room was dirty and seemed quite neglected. Even more wretched is their synagogue in Karshi where it is a miserable shed in a dirty court-yard. The story goes that they did not come to Karshi until 1840.

That the Jews in Bokhara are not so unpopular as the Hindoos is principally due to the fact that Islam has borrowed so much from Judaism, and especially that they have all prophets in common with the Mussulmans.

The Gipsies. There live in Bokhara some Gipsies, who are called Masan, Luly or Yutshy; here they are agriculturists or artisans.

Not being Mahomedans they are all together named Kafirs (infidels) by the natives.

The Afghans. Some of this people live on the Amu Darya on the frontier of Afghan Turkestan and they also visit Bokhara in the capacity of travelling merchants. They inhabit their own serai in Old Bokhara, and being fellow believers of the Bokhara people they are treated in quite the same manner as the natives. They are easily recognized by their sharp, marked martial appearance, great aquiline nose, coal black hair and eyes and their white woollen caftans and turbans and yellow leather-boots.

Lakay or Lakhé. For completeness sake must still be mentioned Lakay or Lakhé. South of a place Kerkinjuk, south of Karshi, Burnes says a tribe of Usbegs live called Lakay. They live mostly by robbery, and their women accompany them in the fight as amazons. While staying in Vakhan where I sought to trace remnants of Avesta people and their faith, I casually asked my attaché from Bokhara, Mirza Abdul Kader, whether he knew anything about there being remnants of Fire-Worshippers, "Atash-parasht" in the other parts of Bokhara, and then he answered with a certain shudder: "There is in the East Bokharan mountains a tribe called Lakhé, they are exceedingly godless people, not Mussulmans, thievish and disagreeable. They have small houses with altars as here in Vakhan where candles are lighted, and on a fixed day in the year men and women come together, both married and unmarried, in these houses, the candles are put out, one after one the men have their eyes bandaged, and whilst blindfolded he chooses one of the women with whom he is allowed to have sexual intercourse for a certain time; consequently something like the so-called Rambangkury in Tibet." These statements being confirmed from several parts, there must still live a sect here of the so-called "Fire-Extinguishers" appearing at the youngest Avesta period, when in spite of tradition the holy fire was extinguished and all sort of excesses were practised, a variety of the Avesta faith which is said to exist also among the Dushikkurds.

Armenians. After the Russians have made their entrance in Central Asia, some Armenians have followed in their wake. The small swarthy fellows in the short closely buttoned up coat of Per-

sian form and the small fur-cap are not found in great numbers in Bokhara, where they come like the very few Nogais in the capacity of merchants, but mostly they follow the trade of inn-keepers, or secretly of panders and keepers of brothels as in Russian Turkestan, but the latter is, outside New Bokhara, difficult for them owing to the laws of Bokhara which are very severe in this respect.

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7.

HOUSES AND THEIR ARRANGEMENT

BUILDING MATERIAL
FURNISHING AND EMBELLISHMENT OF THE HOUSES
HAREMS — SERAIS — PRISONS

THE flat-roofed, unpretentious towns, that are very like mole-hills, in the flat oases of Central Asia afford a strange and sad sight when one comes from the wild romantic and deep valleys of the Caucasian mountains where the stone-built houses are boldly dotted about on the steep mountain slopes so difficult of access, or from the woody northern ridge of the Elburs chain on the Caspian where the Persian wooden houses with their many balconies and verandas peep forth like Swiss cottages from idyllic glades among green beech or dark olive woods, or from the low or swampy land in Masenderan where houses with pointed, red tiled roofs, among luxuriant mimosae make one fancy one's self at some distance in Europe.

The sun from a cloudless summer sky dazzles one's eyes, and owing to the light thrown back by the yellowish grey loess of the oases, the towns which are built of the same soil are not easily discovered; indeed one hardly sees them, until one runs one's head against their walls. Nor can the town be seen from without when surrounded by large fertile orchards, and on one's first visit to Central Asia the many trees suggest a wood, and not before one is inside the town are the yellow mud-boxes, very like ant-heaps, seen dotted about among the trees. For even the minarets, manar, rarely reach above the very high and slender pyramid poplars or the mighty elms and walnut trees which thrive well in the loess soil beside the irrigation canals. The oases and steppes are besides extremely flat, so that no point of vantage can be found from which a bird's-eye view of the surrounding country can be obtained.

In the oases of the plain only the trees or houses nearest can be seen from the ground, and in early summer there is on the steppes nothing but the waving grass, the monotony of which is only relieved by some Kirghiz and Turkoman yurts far away, seemingly at a distance of 4 miles, but in reality of sixteen.

No castle from the middle age lifts its towers and spires into the air from the peak of a hill, for there are no hills, and if one of the many castles rises a little above the houses of the town or the village it is generally built on an artificial hill. The term "to ride up to the castle" can therefore rarely be used here. One rides on flat ground into the castle which is situated on the level land like a toy-fortress on a table, and the conical towers or bastions rarely rise much above the battlement of the high clay-wall.

The question might be put: But the mountain fortresses which occur in great numbers in the extensive Bokharan mountains are surely situated high up in the mountains? There are, indeed, numberless old castles in East Bokhara and Pamir, but proper mountain fortresses are out of the question; the natives have never known how to make use of the natural conditions of the country when building fortresses; it was not necessary either, as they only fought at close quarters. The towns which have sprung up in the most fertile territory in the oases of the low country and in the wide valleys of the mountains, were later on surrounded by walls, and from neighbouring hills or slopes one can look down into the fortress; and in the territories or provinces where the inhabitants of no large town were able to build real fortifications, the castles of the old princes, which represented the inanimate defence of the country or properly speaking of the prince, were built in the middle of the domain which belonged to him i. e. the flat bottom of the valley, generally near the river on which the artificial irrigation was dependent. (The castle of Kalai Vamar is typical in this respect). If, by chance, there were a higher stretch of ground in the cultivated land where water could easily be got, the master of the region often selected such a commanding situation for his castle, or he may even have raised an artificial hill, but proper mountain fortresses where provisioning was difficult were, so to speak, never erected, except some small rédoubts, generally square towers (top-khanáh) which occur in great numbers, especially in the Pamir valleys but where people only sought temporary defence against raids. Excepting these top-khanáhs which we often meet with in the mountains on terraces difficult of access, there are only the fortresses built by

the Siaposh in Vakhan on terraced slopes (See Olufsen: Vakhan and Garan. London 1904.)

When driving through a town or village nothing is seen but the continual yellowish grey clay-walls; it is as if one were in a ravine of erosion in the loess, in a narrow ditch; for all streets are narrow and unpaved, and the sides of the ditch, the clay-houses, which lean one against the other look as if they had shot up from the earth like mole-hills; one should not think that they had been built on the soil. If one does not enter the bazar where there is life and bargaining in the shops or passes by the ponds where the men come together to drink, wash themselves, gossip and smoke hookah on the stone-steps which lead down to the water or take tea in the tea-houses round the pond, one may very well drive through a whole town without seeing anything but clay-walls between which the loess dust is whirled up in dense clouds. The streets are always incredibly narrow, although the high-wheeled carriages (arba) of the natives are rather broad, and if two arbas meet each other, it often happens that the one cannot proceed, until the other has been drawn into a side-street.

Windows looking upon the street are not seen, but at most a small trap-door covered with a wooden shutter or a small hole in the wall so high up that no profane eye is able to look through it; there are no balconies, no verandas; everything looking upon the street is shut. Only low, narrow doors lead into the houses, and it is often difficult to catch sight of them, if a woman or another rare phenomenon does not appear in the opening, and if the house belongs to a well-to-do man, the two-leaved gate is well barred. Only the shops of the merchants, the workshops of the artisans and the mosques are open, but the shops not after 2 and 4 o'clock in the afternoon. Then the streets are quite empty; no one but a single straggler, a poor street-seller or artisan is still on the move. In the open mosques a small crowd is seen kneeling here and there on the flags, elsewhere all life is as it were extinct except in the serais, the inns of the natives, and the tea-houses round the ponds (havs) which are frequented by newly arrived caravan people and gamblers. All have disappeared into their clay-caves like marmots, and they do not admit any strangers; the Bokhara man can say more truly than anybody else: My house is my castle. He who wants to see the stirring life in summer in the towns of the natives where the many coloured dresses and turbans relieve the dreary monotony of the streets, must be an early riser;

for the heat and the burning sun drive the Mussulman into his house as certainly as it compels us to leave it in North Europe.

A flying visit in a town like Bokhara or any other large town does not give us much information as to the fitting-up of the houses of the natives. Not until one has lived for a long time among the Mussulmans, is one allowed to see their life within doors. The traveller sees nothing but a maze of conically shaped mud-houses (hauli) one placed near or above the other, some with one story, others with two stories or with a small square towerlike superstructure (balakhanáh) on the flat roof where provisions are kept. He sees the head-pieces of the beams, roughly or not at all hewn, protruding from below the roof or between the stories, bunches of rice and reeds, wood and hay or fruits which are dried on the roof or stored there; for the ground is expensive here as in Europe. He sees the open shops (dukhan), small niches on both sides of the covered streets (rhasta), pays a visit to a serai generally consisting of four wings with many small rooms and stabling under half-roofs for the camels of the caravans, their dromedaries, donkeys and horses; he looks into a mosque which he is allowed to, when accompanied by natives and there is not a special sanctuary or a saint's sepulchral chamber; and if the day is not a bazar-day which it is only once or twice a week, there is not much to see for a traveller pressed for time. In the country one is never admitted to private houses or yards if one's guide is not a native official, and it is advisable to bring a letter from the native authorities; in the latter case one is always referred to the Aksakal (superintendent of a town) or the Kasi (judge) in smaller towns or villages or to the Beg (District Governor) in the larger towns. The Oriental hospitality, which ought to be exercised towards Mussulmans through 8 days and towards infidels through 3 days, is, as a rule, carried into effect nowhere unless in the mountains and in remote places. But it is possible to obtain it from the inhabitants by the help of the Koran and the Bokharan tradition with which most people fear after all to collide. We were practically always furnished with such letters and guides, but still it happened several times when for some reason or other I had neglected this that everything was closed against us both in Bokhara and Khiva. If, however, the traveller is in possession of a letter of recommendation from the Emir, all is thrown open to him. One has but to order. Carriages, horses, sanctuaries, mosques and private houses are placed at one's disposal, food and fruits are procured, and you may pay or not, just as you like.

(The native officials seldom pay when travelling on service, which is a great tax on the population). One wants to buy something, and it is brought, even if several people must run about a whole day in order to procure it in the town or the neighbourhood; for the guest of the prince is the guest of the whole country. Thus there are, properly speaking, but 2 alternatives: to see nothing or to see everything.

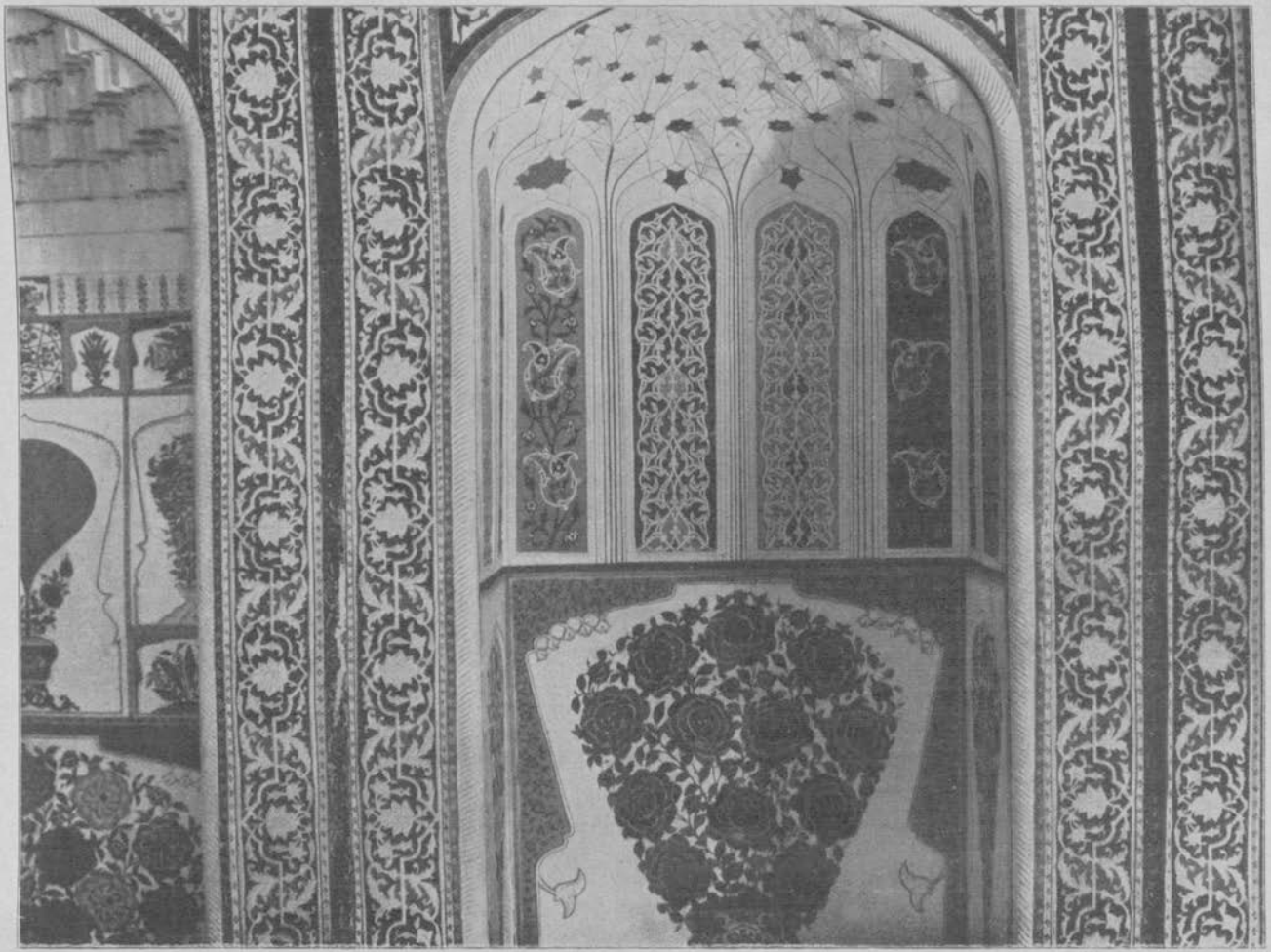
The yard in the palace of Ilti-khanéh in the town of Bokhara. (Our dwelling during the stay in Old Bokhara.)

Building material, houses and farms in the towns and in the country. Here as anywhere else two circumstances must be taken into consideration when speaking about building material in the level country; namely which material can be obtained on the spot, and last not least the climate which sets its mark upon man and all his belongings more indelibly than anything else. Building material has always been scarce in these regions, but the climate has, on the other hand, assisted the inhabitants in overcoming these difficulties. One may wander for miles in Central Asia on the fertile

loess in oases and steppes without finding a stone, and woods in the European sense of the word do not exist. Trees are seen nowhere but in the oases, which are artificially irrigated, but these trees are in many cases of vital importance to the inhabitants. They are nearly always fruit-trees: apricot (uruk), mulberry (tut), peaches, almond, apple (olma), pear, quince, pomegranate, plum, cherry, fig (andjir) and walnuts, and these fruits are important articles of food for the inhabitants, both in summer when fresh, and dried in winter. Apart from these the pyramid poplar, the common poplar and the willow, the latter attaining an extraordinary size, are the most common and grow everywhere in the oases in great quantities. Further the elm which affords such excellent shade against the sun. The apricot, walnut-tree (gigantic specimens of the latter are principally met with in the mountains) and the elm afford good timber, but it is, of course, expensive, and is therefore employed to a less extent, for instance for carved doors in mosques, sepulchral chambers, palaces or in the houses of rich people. Most used are the apricot-tree, which is very hard, and the walnut-tree. The elm is seldom felled owing to the shade it affords beside the ponds and the irrigation canals, thus there remains only the bad willow- and poplar-wood which must be employed for timber, and even in the oases these trees grow in such slight numbers in proportion to the population that any extensive use of wood in building houses is out of the question.

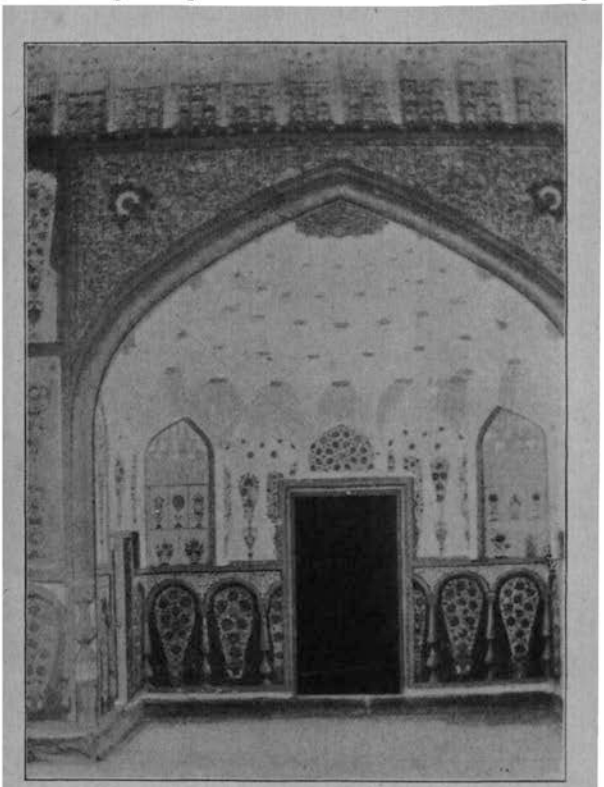
Timbered houses and houses of natural stones are therefore not found in the level country,—in the mountains the flat slates which roll down upon the slopes are much used—and timber is employed as little as possible. The buildings are made of the soil, the loess, on which one treads. In dry weather this loess becomes as hard as cement, but in damp weather it is like bird-lime. In a rainy climate such mud-houses would be destroyed, but fortunately the climate is very dry; but if continuous torrents of rain happen to set in, the roofs and often the walls of the houses rain down, and at last there are but two alternatives: to be covered with mud inside the house, so that one looks like a brick-maker or to remain out of doors. The long summer is hot, dry and practically rainless; in winter the temperature may fall to 10° and 20° Centigrade below zero in the Pamir valleys, and then many natives often die of cold in the houses which are badly or not at all heated; for, as we have seen, fire-wood is a very expensive article.

In larger buildings such as mosques, sepulchral chambers, huge



Wall decoration, stucco-work with painting and guilding in the palace of Kâplân in the town of Bokhara.

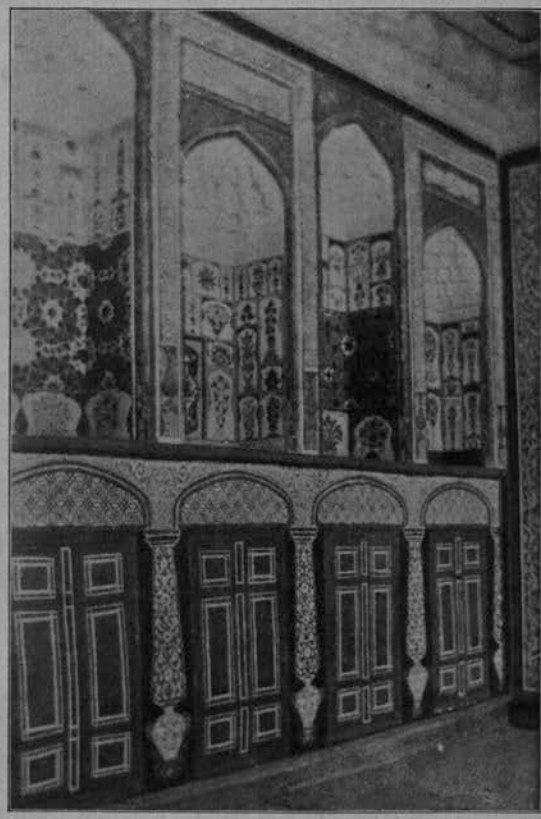
palaces, serais and so forth, burnt bricks (kisht) are employed, and thus vaults, walls, towers and minarets can be produced here without wood, but the brick material is too expensive for common people, so they are obliged to content themselves with sun-burnt bricks and generally with clay as it is, which is kept together by a primitive frame wall of roughly hewn willow- or poplar-trunks. Consequently frame work is found everywhere; in the poor mountain kishlaks often nothing but the roof rests on trunks, the walls consist exclusively of flat slates cemented with clay. Thus one cannot do quite without timber, but must be content with very little; eight poplar planks struck down into the ground and connected with thinner branches are often the whole frame by which the clay-walls and roof of a house are kept together. Timber must also be employed for the supporting of the flat roof, but here a few rafters are sufficient; they are covered with rice, fagots, reeds, hay or mats made of split durra straws, with a layer of mud on top.



Wall decoration in the palace of Kâplân.

It is the construction of the roof which requires most wood. In the better class of houses the ceiling often consists of thin barkstripped fagots, joined close together one beside the other between the beams, which looks very well, and if there are 2 stories (there are never more), the ceiling above is made in a similar way before the clay of the floor is smeared across the cover of reeds, hay or mats. This is, however, not always the case; on the first floor one often walks upon an unsafe ground of rice, mats and clay. The European with his thick-soled boots and boot-heels easily steps through such a rickety ceiling whereas the Mussulman whose

boots are more like a sort of soft leather stockings without heels, can very well walk here without doing any mischief, as he leaves his iron-bound wooden shoes at the door on entering the house. In a few palaces in Bokhara, such as Ilti-khanéh (House of the Foreigners) where the Emir lodges his foreign guests, in the houses of the rich Jews, Isak ben Ghasof and Aron ben Ghasof, in Bokhara and in the houses of a few rich merchants, in mosques and houses of prayer wooden ceilings are seen, often adorned by carvings in Persian style and painted in bright colours, especially green and red and gilt. Some ceilings in mosque-verandas and the ceiling in the palace of Ilti-khanéh are beautiful specimens in this respect. The beams are always visible below the ceiling; they are often carved, so that they hang down below this like soffits, and the ceiling itself consisting of carved and painted wooden boards, each of which has its own pattern, is set in between the beams. Such ceilings in a house are, however, looked upon as an extraordinary luxury.



Part of a wall at the palace of Kâplân in the town of Bokhara. The many wooden doors open upon a veranda in the yard.

With small needs the simple Mussulman may do with very little timber for his frame work and his roof. In more rainy regions such as, for instance, in parts of Karategin the flat roofs of the low houses in the villages are often so covered with grass and plants as to be more like caves in a loess slope than built frame houses.

Apart from the roof and the frame work in the walls he is only in want of timber for his door and a single shutter and for the

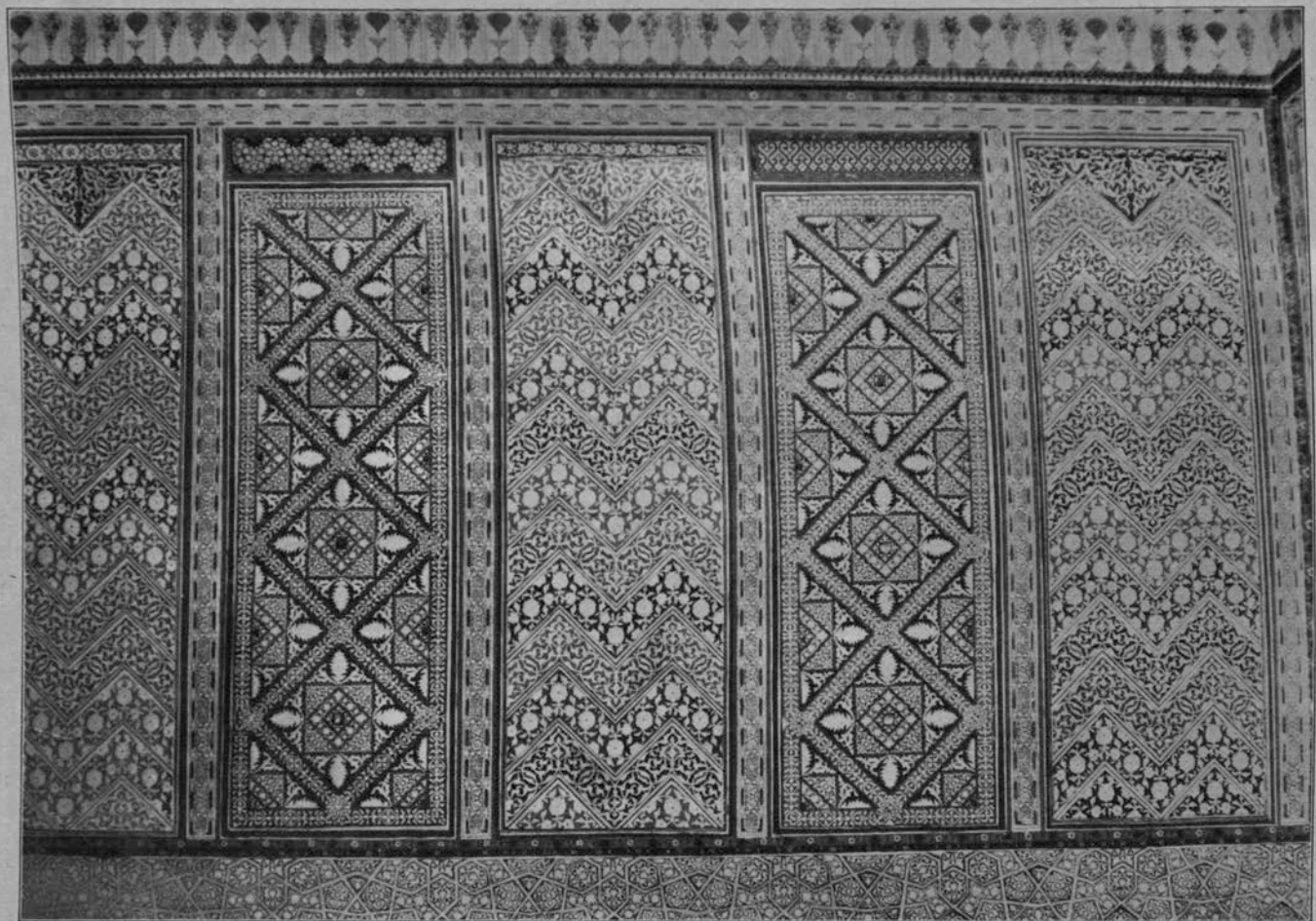
pillars on which is supported the veranda (aivan or aivân) indispensable to the Asiatic; its ceiling may be made of mats, reeds and clay or of wood, according to his means.

The veranda is indispensable here when one wants to take a little air in the heat of the summer sun, for the inner rooms of the dwelling of the ordinary man have generally as few openings as possible so that the goods and especially the women may be well hidden. In the country in lonely farms and houses the flat roof is a favourite resort in winter during sunshine; for it is then cold in the rooms where fire-wood must be spared, but in summer it is too hot to stay here. In the towns, however, one cannot walk on the roofs without further ceremony; for from here one may look down into the yards of the neighbours and see their women. One day in Bokhara, therefore, all our servants and the neighbours were struck aghast at my walking about on the roof of the palace of Ilti-khanéh; and they shouted at the top of their voices that I ought to come down. Before the snow in winter is swept or shovelled away from the roofs or before fruits a. s. o. are spread out on them to be dried in autumn, the Kasi of the town makes known by means of public criers running about the whole town that such an event is about to take place, in order that the female persons may hide or know that the dense horsehair-veil (chasband) must also be worn in the yards.

For this reason the verandas have to be situated in the yards, and if now and then a small veranda looks upon a street in a town, it is only used by the men, and in the country if it can be seen from the road, a dense lattice of reeds or small fagots is put up in front of it, that the women may look out from here without being seen themselves.

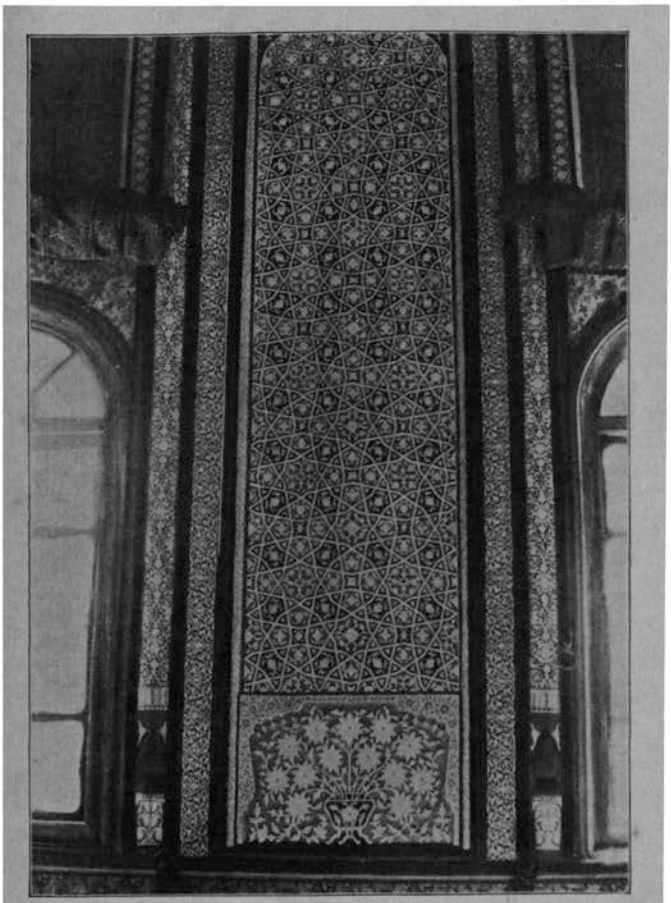
Even in the windows or, to put it more exactly, the trap-doors which are placed high up on the walls, timber is generally not used for the lattice-work, but the whole is cast in plaster in the same style as is seen in India in sandstone, marble etc.

Stones for the foundation of buildings or for columns or other ornaments of the houses are, as a rule, not seen; for in the level country they must be carried from afar, from the mountains, where stones, fit for buildings, are not always common, and as the clay holds its own well in the dry climate, work becomes more easy when using this. Stone is only employed for the tomb-stones (kabr or sarkhanáh) of well-to-do people, mostly marble or a greenish species of stone, easily hewn, and sandstone. It was conse-



Wall decoration, painted and gilt stucco-work in the palace of Kâplân in the town of Bokhara.

quently an enormous luxury when Timur used marble flags for the stairs of his mosque, Shah Zindéh, in Samarkand, a luxury which was no doubt introduced by Indian artisans. There are still some flags extant, and the mullahs always call the attention of the visitors to them. In a few places in Bokhara cut sandstones form the foot of the pillars of the veranda. Elsewhere the sandstone is used for mill-stones; when worn out the mill-stone is placed as a lid over the well, and a wooden stopping is put into the hole to prevent the water from pollution or too great evaporation.

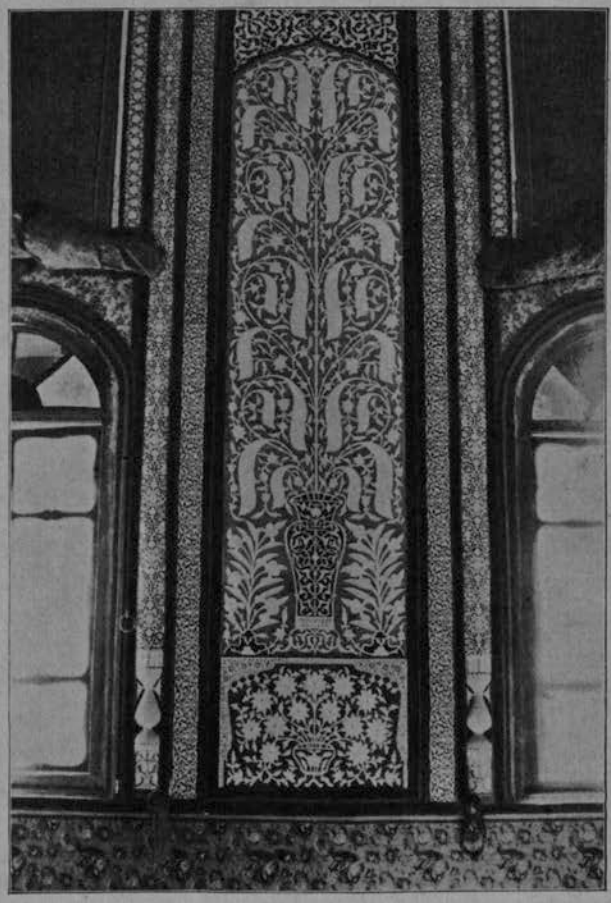


Painted stucco at the palace of Kari in the town of Bokhara.

The size of houses and yard varies, of course, according to the means and needs of the proprietor, and the style of building in houses and farms in the country differs somewhat from that of the town, especially because the houses in the country have to be built more solidly in order to be able to stand alone, whereas in the towns the style may be lighter where the one leans against the other.

The size varies from a small square mud-box divided into a few rooms to a large farm with four connected wings, and perhaps with two stories or only here and there with a sort of upper story consisting of a towerlike house, later built on the roofs and used as store-room. Everywhere they strive to procure a yard cut off from the surroundings and enclosed by four attached wings where

the family may walk about without hindrance when the only gate of the yard is barred; this gate is, generally in towns and always in the country, the only hole through which it is possible to slip in. Especially the farms in the country which may be compared to Danish estates and farms of landed proprietors or yeomen, are real strongholds entirely surrounded by clay-walls, several metres high, where there is but one strong wooden gate that can be barricaded from within.



Painted stucco at the palace of Kari in the town of Bokhara.

But in speaking of the small clay-box of the poor man or larger houses in the towns or in the country with many or few wings, a small yard always belongs to the house, surrounded by a clay-wall higher than a man's height, where the women can walk about unveiled.

When a man settles on his piece of ground in the country, he generally begins by fencing in a yard with a high, thick clay-wall, and in the meantime he lodges his family in a house or tent of mats, if he cannot lodge them with his nearest relations, for only the latter are allowed to see the women (khatun and kys = wives and girls) unveiled. When the mud-wall has been completed and the gate fitted in, he begins to build houses inside the wall, and, number and arrangement being regulated by his needs, he erects them all round the inner side of the wall which is the

more easily done as he can spare the back walls here and make the roofs for houses and veranda by inserting trunks of trees into the yard-wall; these trunks are supported on some posts struck down into the ground. In the country when one approaches such a gigantic yard-wall (deval or devâl) with a large entrance gate, imagining that a very rich man lives in the large dwellings within, one's disappointment is often very great; for in many cases there are only a few small houses within the wall with verandas leaning against the huge fortress wall and apart from these nothing but an empty court-yard.

The gardens (bâg or bâgtshé), at any rate the more considerable, which in the larger towns are, comparatively speaking, almost as rare as in our towns, are both here and in the country surrounded with clay-walls, as far as possible built so high that no one can climb over them; thus the family cannot be observed from without, and the access of thieves is impeded. Chancing to catch a bird's-eye view of some villages of Central Asia, for instance from a high minaret, the ground looks as if it were dotted over with square clay-basins (the yard- or garden-wall) from which the tops of the green trees rise like flowers in a vase.

The clay for the building, the yard- and garden-wall is taken from the spot; it is kneaded together with an implement something between a shovel and a pick, a kind of large hoe, which is one of the principal agricultural implements of the natives. The clay is mixed with chaff, to make it more binding. With the hands it is formed like a dough into large lumps and handed to the wall builder or thrown up to him, if he has got higher up on the walls of the inner rooms. By degrees the wall builder fits them into their places smoothing them with his hands or with an iron instrument. When the wall is so high that the soft clay cannot bear its own weight any longer, the work is stopped for that day. The sun and the dry air, however, stiffens the wall so much after a little while that one is able to stand upon it and then the building is continued as described above. In yard- and garden-walls no frame work is used; they are therefore made very thick; shortly after they have been built large cracks appear, but this does not matter; later on the crack is filled with a little wet loess and the wall is smoothed over.

In the bazar we often saw the native merchants themselves repairing their houses, for instance, erecting a new wall in their shop, if the neighbour had put his elbow or leg through, which is

Wall decoration, stucco with painting, in Quyi Hauli.

easily done without any exertion of strength. They simply mix up some of the loess from the unpaved street, and then build up the wall with their hands.

If such clay-walls (devâl), especially yard- and garden-walls in the country and round the gardens of the palaces, are to resist to some extent attacks from without, they must as noticed above be very thick. Walls of the thickness of one metre are therefore often found round the gardens of the palaces and the gardens and court-yards of more well-to-do farmers. With their ornaments and conical clay-columns they look very imposing, for at some distance the yellowish grey loess is very like sandstone, but on closer inspection one discovers that it would not be difficult to make a breach in the wall by means of a beam.

The large town-walls (tshim) generally consist of nothing but mud, only where neighbouring mountain slopes have yielded material of broken mountain species, this material is used for the foundations. In many old castles (kala or kurgan) in the mountain both walls, buildings and towers up to a height of several metres are framed of flat pieces of slate or gneiss piled up and then cemented with clay, because the stones are here more easily procured than the large quantities of clay required for such a structure. To strengthen the walls a course of stones and a course of fascines continually alternate, the latter every second time crosswise and every second time lengthwise, and the higher towers are supported on a frame of strong joined beams. The appearance, form and material of the castles is in exact accordance with the territory and the material at hand. In a flat, fertile oasis in the level country where the smooth forms do not present any sharp transitions, we see a smooth clay-tshim with rounded and gently turned bastions and towers or a castle built in the same style with cylindrical towers because the clay stands its own best in this way. In a wild mountain valley where there are slopes, ravines and stony sharp formations, the castles bear the same character. Walls and towers have sharp outlines, the latter are always square because the stone material is best adapted to this style of building.

The gates in the larger buildings in the country and in the towns, in mosques, serais and palaces may be exceedingly large and solid. They consist of two leaves, each leaf in the official buildings and houses of well-to-do people sometimes consisting of one single piece of apricot or walnut wood and often beautifully carved in Persian style or painted in bright colours or both. Most

frequently, however, the leaf of the gate consists of 3 panels, one larger central panel and two smaller above and below, or of three smaller, all made of poplar or willow wood[1]). Especially in former days, in the eleventh, twelfth and fourteenth centuries wood-carving flourished in Bokhara; the style met with everywhere is the Saracen or Persian whereas Chinese influence cannot be traced. The leaves hang in solid hinges on the posts, and the hinges extending right across the gate are often of beautifully wrought iron. They are fastened to the gate with heavy nails whose heads consist of a cup, often of the same size as a hollow hand; the convex side turns outwards. These very decorative large nails are often placed in long rows on the gate as an ornament also outside the hinges. Red indented woollen cloth is always seen under the mounting of the hinges and the heads of the nails, and both nails and hinges are sometimes decorated with patterns formed of silver threads hammered into the iron (Demisk-ish, Damask work) in the same way as blades of swords and knives.

The gate is barred from within with a beam placed in iron clamps, and from without, if the male members of the family or the whole family are not in, with a padlock generally found in an iron chain at the top of the gate. The padlock, whether larger or small, always consists of a pipe with a handle, and the key resembling the key of a yale lock is put into the end of the pipe.

The poor man in the town or in the country who has no gate, must be content with a double door with a padlock at the top as in the gate or only one single narrow and low door that is shut with a primitive wooden lock. The latter consists of a hole in the mud-wall at the side of the door through which he puts his hand and turns an artificially formed piece of wood into some osier-straps on the innerside of the door. Primitive as this fastening is, we could not always find out how to open the door, for each man has his own way of locking.

The entrance to the larger houses with several wings in the town and the country is not directly from the gate or the door into the court-yard, but through some rooms with mats laid here and there upon the floor where the servants of the house live. If, namely, the house has several wings, the servants always reside in the wing where the gate is to act as a sort of guard at the gate.

[1]) See Martin: Thüren aus Turkestan and O. Olufsen: Old and New Architecture in Khiva, Bokhara and Turkestan. 1904.

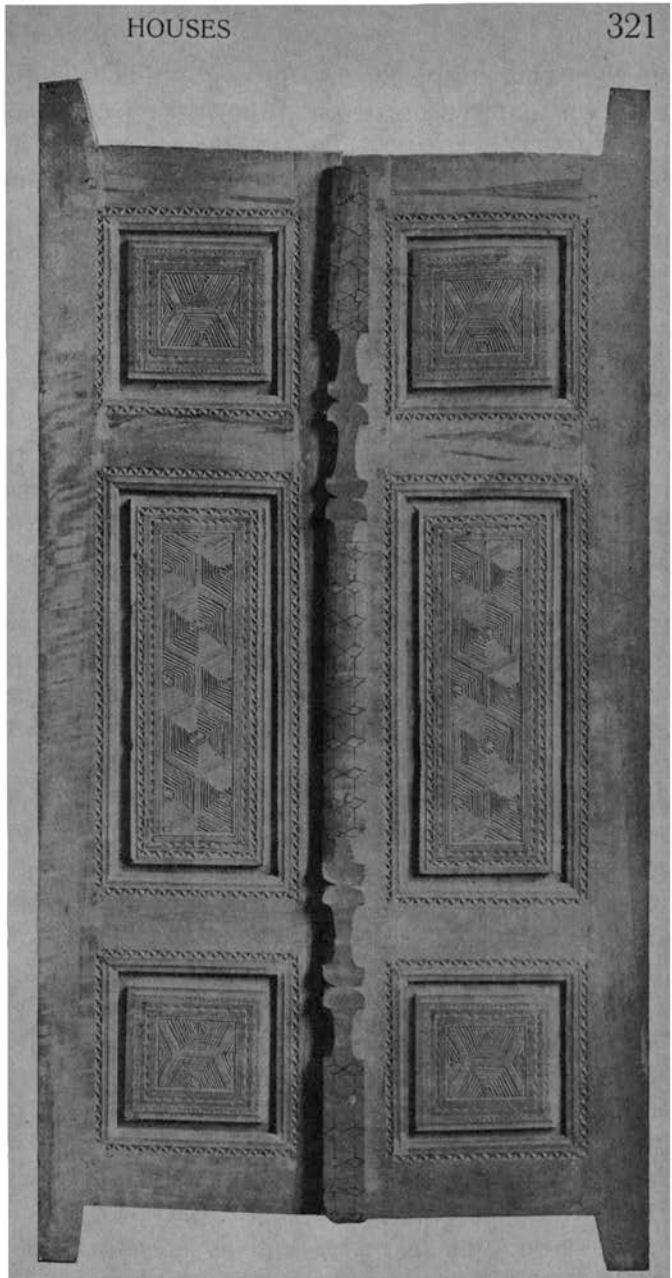
In the wing opposite to the gate dwells the master of the house with his family; corn and other store-rooms being in one and stables in another wing. The stables for horses, donkeys, camels, cows, sheep and goats are both in summer and winter often nothing but a pent-roof with mangers leaning against the outer wall by which the wings are replaced.

Whether there are more or less wings, one always feels in the yard, as if one were standing betweeen 4 verandas built together. The dwellings of the master of the house and his servants are always furnished with verandas, those of the latter are only more simple, and the pent-roofs of the cattle are, indeed, something of the same kind. Add to this that there are pent-roofs or verandas built of mats nearly everywhere along the wall or the store-wing; for it is convenient to put up a riding-horse or camel or other animal which has to start again soon after in such a place, or people of passing caravans who are not allowed into the inner rooms may rest here in the shade. Coolness and shade are as necessary here as food and drink. When people are obliged to go out in the worst heat of the sun, they are often seen running into the shade again, just as we in Denmark seek shelter from a heavy shower.

It ought to be observed that dunghills never occur in the court-yard. The manure from the cattle is carried on osier hand-barrows outside the wall where it remains till in the course of years it forms real mountains leaning against the wall; for the Mussulman neither manures his field nor his garden, the loess is fertile enough to call forth rice, durra, luzerna, corn, tobacco, sesam etc., if it is only watered sufficiently.

All round along the fronts of the wings there are nearly always, at any rate along the inhabited wings, higher or lower mud-built platforms or with well-to-do people flagged brick platforms at the foot of the verandas, up to which there are stairs formed in the clay or constructed of bricks. On these platforms at the foot of the veranda the inhabitants pass the greater part of their time. Here they take their meals and their tea, rest on carpets and mats; the infants lie here in the shade in their small beds, wooden cases painted in bright colours that stand on four legs and across which there are 2 wooden straps in which they may be carried, and a cloth may also be laid over them to shelter the infant from wind and a too strong light. Newly arrived guests have their pillau served here in large tinned copper-dishes, smoke the water-pipe

(chillem) that passes from mouth to mouth, or discuss with the host. In the summer nights the men often sleep on the platforms either on a few carpets on the bare clay in their clothes, or with the more well-to-do people on a frame of boards that is very like an airer or clothes-horse and by which the bed is replaced. When this frame is meant to be used as a bed, a net, instead of boards, is often stretched across it, and then such a bed is as good as the European. The frame with a bottom of boards is much used as a piece of furniture on which carpets are spread. It is placed in court-yards, on platforms, in tea-houses etc., and here the natives are seen sitting close together, taking their meals, eating a melon or taking tea. Such a motley dressed group of Mussulmans look exceedingly funny. In a market-place where there are many of these frames, the groups are not unlike collections of figures of confectionery on a table. Besides the platforms along the wings there



Common Bokharan folding-door of poplar wood. (Nat. Mus. in Copenhagen. Olufsen's Collection.)

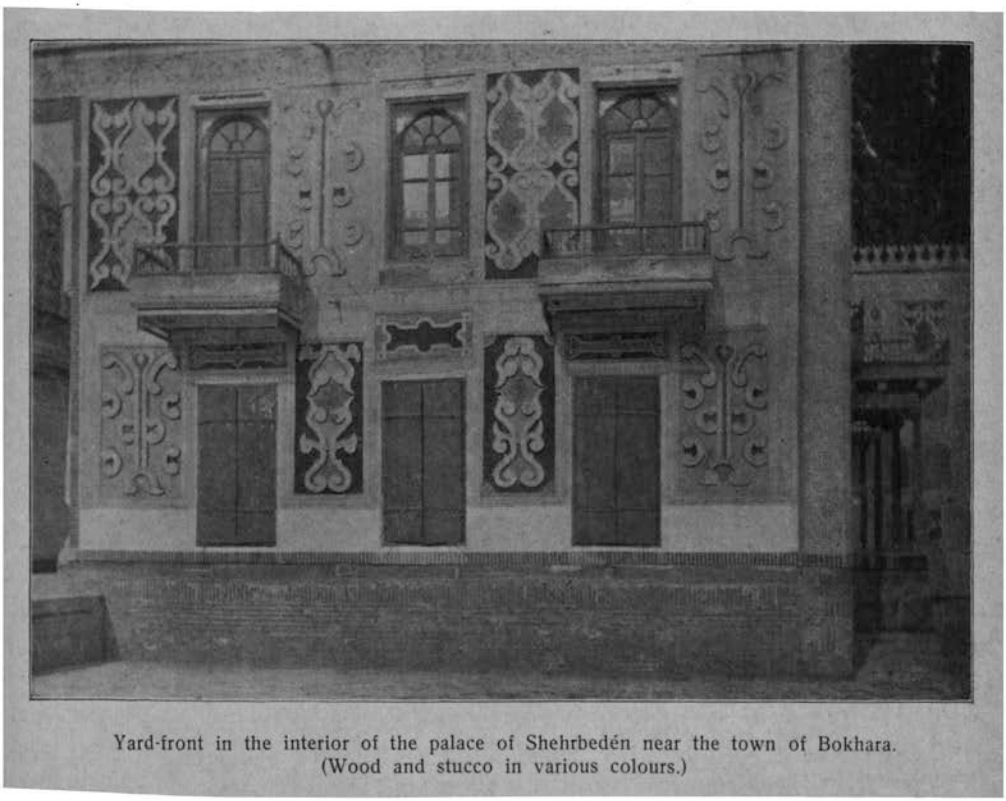
is often in the middle of the court-yard a circular clay- or brick-platform; it is found in the yards of the Usbegs, especially the half-nomads. At first sight it resembles a horse-way in a thrashing-machine, but is intended for pitching the round felt tent (kara-oi) where the Usbeg, being originally a nomad, is fond of living instead of in the house which is too close for him. When there is no tent, the platform is used to sit upon, or saddles and harness are placed there when the loess is too soft or too dusty. As on the platforms at the foot of the verandas a small low house of plaster, clay or brick is often built here. It looks like a pigeon- or fowl-house having many holes like the pigeon-house, but it is intended to receive tea-pots, jugs, samovar (the original Asiatic samovar has the same form as a common tea-jug) and vessels, so that the latter can soon be produced for the indispensable tea.

Well-to-do people spend much on the ornamentation of the verandas, their favourite resort. The columns are decorated with beautiful carvings or painted in bright colours, and the ceiling is formed of carved and painted wooden boards which between the beams are cut out like soffits by which the ceiling of the veranda is supported. Beautiful verandas of this kind are often seen in the palaces of the Emir of Bokhara. Apart from the veranda of the poor man where the columns often consist of nothing but unhewn poplar branches, there are two well-marked types of columns, viz. that which may be called the Khivinian column because most common in Khiva, and the Turkestan column, most common in Bokhara and Turkestan. The Khivinian column is light and slender in form and devoid of capital, being tenoned directly into the beams above. Below it is rounded, and at the end there is a tap like the stem of a plum. This tap is surrounded by an iron-ring resting on a pyramidical foundation of sandstone. Both the lower part of the column and the foundation are often decorated with very fine carvings and sculpture. This form of a column is exactly copied in the glazed tiles on Timur's mosque in Samarkand, Shah Zindéh (The Living King).

The form of the Turkestan column differs widely from this. As a rule there is no foundation, but the polygonal shaft rests on the beam in the clay-platform or on its flags. Above it ends in a curiously pointed capital whose tap is inserted in a hole in the beams of the ceiling, so that the firmness of the column is secured by the weight of the roof alone. The capital is carved in the form of a

European church spire, and from its roof hang carved stalactites. The column is generally painted in red, white, green and blue. Beautiful specimens are found in the mosque of Baha-eddin near Bokhara and in several mosques and merchants' houses.

The side of the house which forms the back of the veranda (aivân) is with the less well-to-do nothing but a simple mud-wall generally not even smoothed, but in the mosques, palaces and great



Yard-front in the interior of the palace of Shehrbedén near the town of Bokhara. (Wood and stucco in various colours.)

merchants' houses it is often decorated with stucco-work painted in different colours or gilt, or less often covered all over with glazed tiles (kashi). Below the veranda the stucco-work is namely less exposed to weather and wind than it would be on the other sides of the house.

The decoration of the houses like the material is dependent upon the natural conditions of the country. As wood is so little used in the houses, it is no wonder that in doors, ceiling and columns it is specially decorated. Carving has flourished in Central Asia from time immemorial. We know from the Chinese annals that at the

time of Christ there were temples with magnificently carved doors and columns in Central Asia. Even the nomads were fond of carving wood-work in the tents, and even now we see a few Kirghiz tribes adorn their felt tents with carved wooden doors. The latter are seen with the Turkomans in Merv instead of a carpet hanging down before the entrance, which is the original way of shutting the tent and still most in use. The old Parthians possibly had carved wooden tent-doors as have their presumable descendants, the Turkomans.

To decorate the clay it had first to be burned and pressed into figures or to be painted and glazed, for it was not much use to paint the fragile walls of the mud-house. Tiles pressed into patterns and glazed tiles are, of course, expensive and therefore only found in the houses of rich private people, but they are very common in mosques and sepulchral chambers. In Bokhara numerous mosques and medresses from the 15th and 17th centuries display very beautiful glazed tile fronts.

But in general majolica is too expensive. People sometimes insert an edging of a few glazed tiles here and there in the wall in the veranda, elsewhere they must be content with stucco-work, painted or unpainted, a smooth plastered wall, or, as a rule, nothing at all but the clay-wall.

In the larger houses with several wings in the country and in the towns there are in the walls below the continuous verandas many doors, one beside the other i. e. they look like doors, all of them being shut with two-leaved shutters of the same size as the door opposite to the stairs which lead up to the clay-platform. They are not, however, used as doors, although one might as well enter the room by them as by the proper door. They are to be considered as a kind of windows (without glass), which are opened to procure fresh air. Standing below the veranda it is almost impossible for a European to see which of these entrances is the door, but the natives cannot help laughing when one enters by the wrong one. Thus at Bokhara I happened to enter the house of the prime minister (Divambegi) of the Emir by the window which, of course, gave his courtiers an extra treat, and even the old, serious Divambegi had to make a great effort not to burst out laughing, for a dignified deportment is very highly esteemed by Bokhara people. Over these numerous doors or windows are the pointed trap-holes high up in the wall. Their lattice is generally plaster, more rarely of wood. In winter oiled paper is often pasted across the lattice.

We have now practically done with the decorations in the houses of the natives, namely carving and painting on the columns, ceilings, doors, the stucco-work and the glazed or pressed tiles. Add to this the solid carpets on the floors with their somewhat monotonous patterns, and, properly speaking, we have named all the means of decoration. A fitting-up, such as is found in European houses, does not exist here, neither outside nor inside the houses. All brass jugs, copper and brass dishes, vessels, weapons etc. are not set up for decoration. Everything that is not wanted for instant use is kept in locked up chests in a special room whose key is kept by the master of the house. The remaining decoration is, literally speaking, part of the house, there being practically nothing which a thief can run away with besides the carpets on the floor. There is, so to speak, no furniture, with the well-to-do nothing but a small table, about half a foot high, on which tea and confectionery is placed on very solemn occasions. They lie on the carpets, eat the warm pillau with their fingers sitting on the ground round the common dish and sleep on the carpets in their clothes, or at most they make a sort of bed of several blankets, especially quilted blankets, one above the other with a roll for pillow.

On entering a Bokharan house anxious to see something remarkable, it generally falls very short of one's expectations. With the poor man one is in an empty room with four naked clay-walls; on the floor, which consists of beaten clay, there are some mats on which are spread a few carpets, and on the carpet there may be a brass or copper mug, an earthen jug or wooden vessel. With the more well-to-do the whole floor is perhaps laid with mats and carpeted, the walls are plastered, and here is one pointed niche beside the other with an off-set for shelf. The ceiling is sometimes of carved and painted wood or consists of bark-stripped white fagots, but apart from this there is absolutely nothing worth seeing. The first time one pays a visit to a Mussulman, one thinks, of course, that they have taken one into a special room of reception for strangers, and that in his other rooms are kept hidden treasures, but on becoming more closely acquainted with the master of the house and being allowed to go all over his house, of course, after his women have been sent away, one finds out that there is nothing in the other rooms either. At most mats, carpets and plastered niches. Small doors lead from one room into the other, corridors are unknown. The want of corridors dates back as far as the be-

ginning of the Christian era. They are not found, either, in the old Arabian buildings in Mesopotamia of whose architecture one is reminded everywhere in Central Asia. One of the inner rooms is the women's room, the mystic harem, often nothing but an empty carpeted room, but as will be seen, it is also often arranged in a more interesting way with the well-to-do Mussulman.

The harem (haram) is no common thing, in so far as is meant a room where fair Oriental women are hidden. A man rarely has more than one wife, simply because it is too expensive to have more, and no one but the Emir, his legitimate sons (princes, Turra) by one of his 4 legitimate wives, whom the Mussulman is allowed to have, the higher officials, the Begs (Governors) and a few richer merchants keep a harem. And even most of these have but 2 and 3 wives and a few female slaves. The Emir has 130, his son, the heir apparent (Turradjan) twenty odd, a few Begs in Bokhara between 10 and 15 women at their disposal.

The ordinary Mussulman who has more than one wife, generally has an empty, carpeted room for each of his wives and their children, and the first room one enters is the men's and their guests' room. With those who have many wives and female slaves it would be very expensive to have a room or a house for each of them, and then only the favourite wife or the favourite wives have their special rooms or houses; the others are lodged in what is actually meant by harem or haram. (It is here generally called enderun or endrun)[1]).

But we will first take a look at the other rooms whose number and fitting-up depends upon the means of the inhabitant. They are as stated above completely devoid of furniture or other ornaments than those fastened to walls and ceilings. All the movable property is either in the hearth-room (kitchen), such as domestic utensils, or in the treasury (lumber-room), the small locked room, whose key is kept by the master of the house himself. Here are clothes, jewels, stuffs, finer domestic utensils such as brass dishes and jugs etc., not used every day, saddles, harness and weapons, either packed in locked chests or spread on the floor. From here the things are taken out to be used and then again put by.

Under the Russian dominion the Emir of Bokhara and his higher officials receive many presents from the Europeans who pay visits

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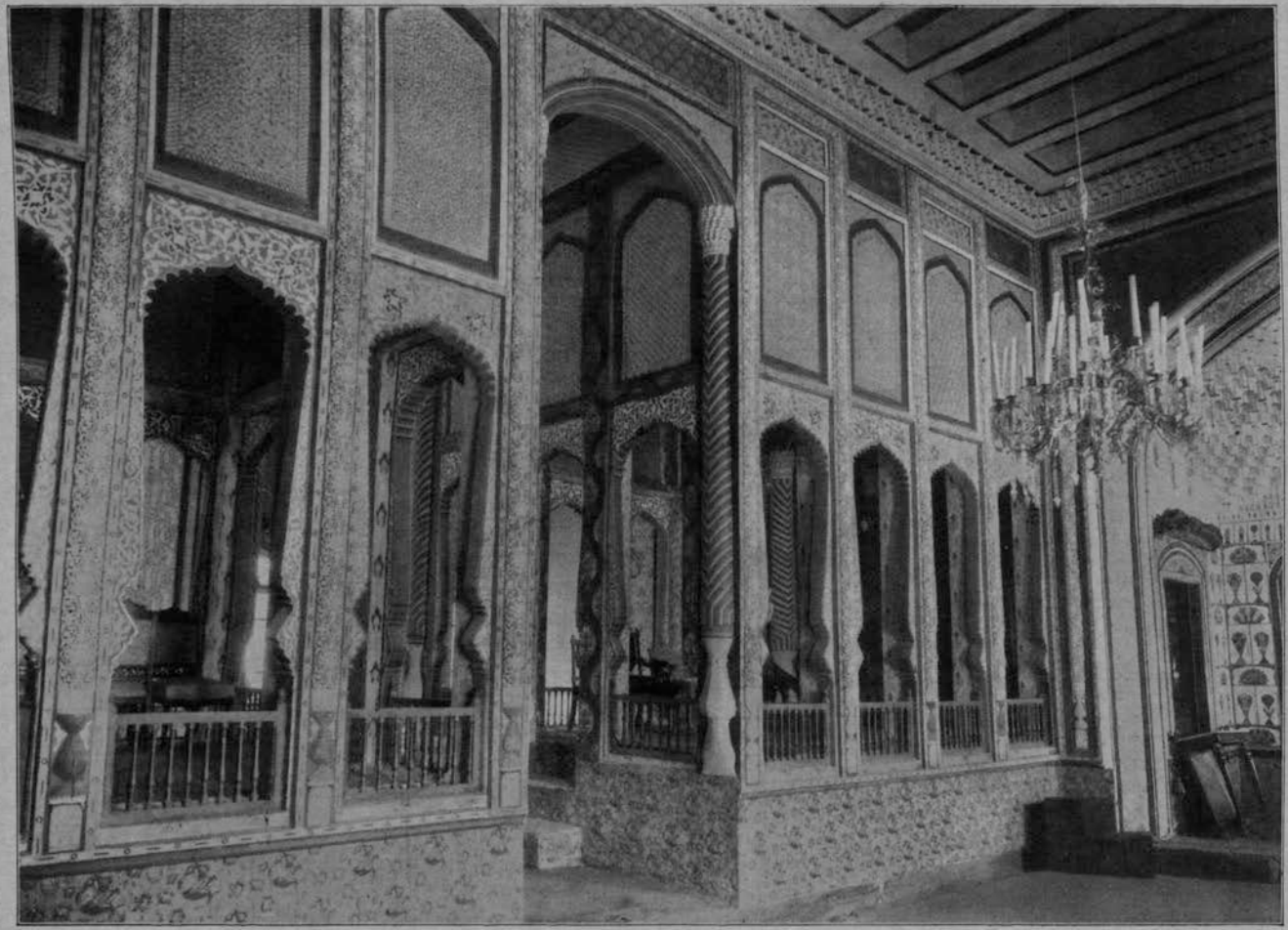
[1]) The women's room or harem in the Pamir valleys is described in: Vakhan and Garan. O. Olufsen. London 1904.



Harem room in the Emir's palace of Staramâkâsá in the town of Bokhara.

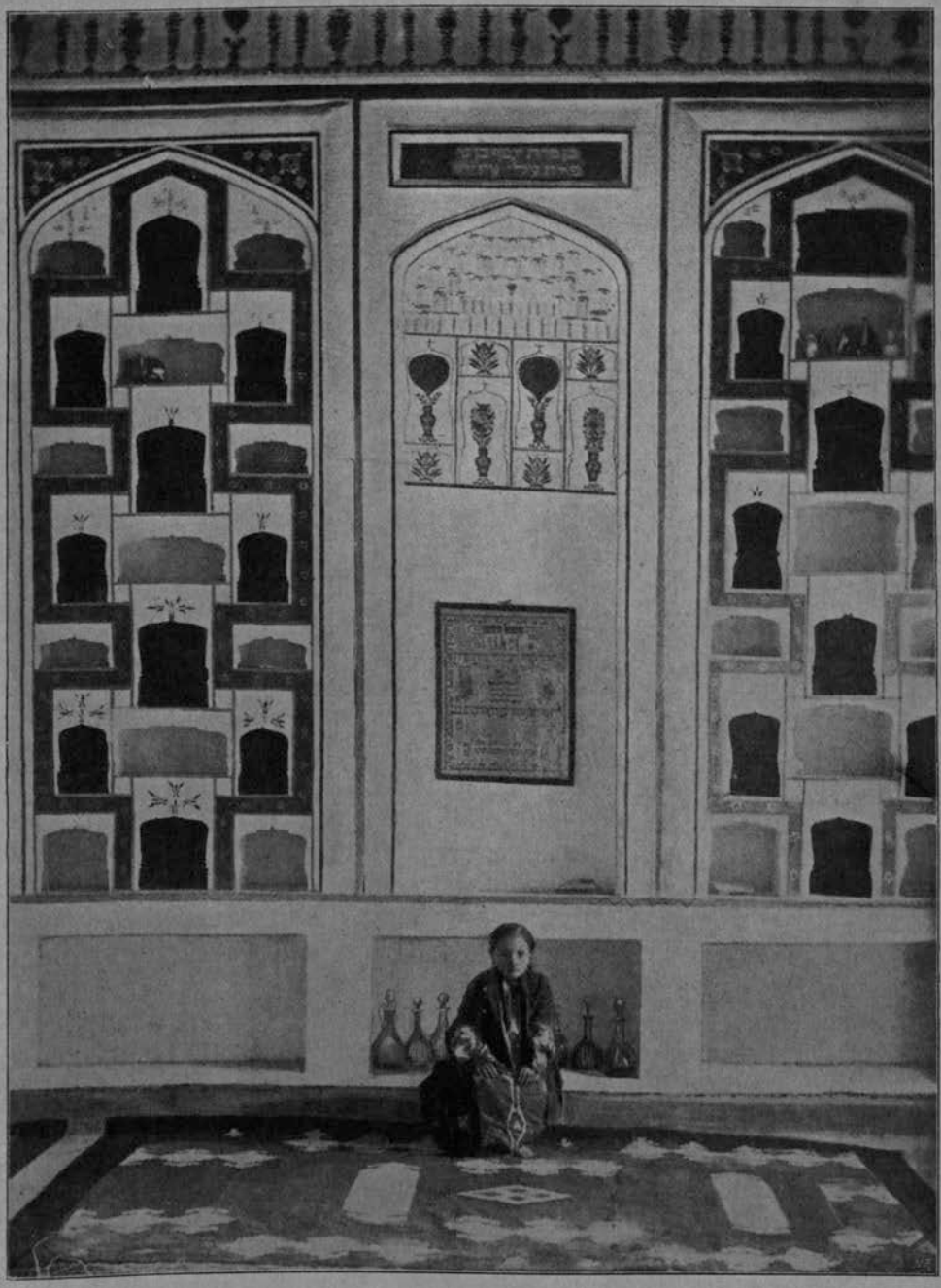
to them. Thus we had brought with us many presents for the prime minister of the Emir, who was very kind to us. These presents were different European things intended for the decoration of rooms, but together with all the lumber they were packed into the treasury. "I will go there now and then, take out the things and look at them, and then I will put them by again", said the Divambegi.

The poor man who has no treasury, but only a few rooms of which the front one is the men's room and that behind both hearth-room and women's room, keeps every thing in the hearth-room or in the small towerlike room on the roof.

In larger dwellings in the richer towns of the oases the want of furniture, especially cupboards, seems to have been felt. In many places the large pointed niches in the walls have, namely, been divided into many small niches of plaster with shelves, on which china, glasses and jugs, that are often used, can be placed. These niches or small cupboards without doors are often finely decorated with stucco-work and painting and make the room seem less empty than would otherwise be the case.

The rooms of the natives in the larger houses with their many doors and windows always facing the north are remarkable for being pleasantly cool and airy. With the less well-to-do who cannot afford such a luxury, there is generally nothing but the entrance door, and perhaps a shutter which can be opened on the first floor. When there is but one story, one must, as a rule, put up with a square hole in the ceiling above which is built a small house with lattice work very like a pigeon-house, and through which there comes a draught of wind; sometimes there is an oblong opening in the wall below the roof with lattice work for the draught.

In all smaller houses in the kishlaks in the mountains and especially in the Pamir valleys there is a hole in the roof covered with a wooden trap-door which is opened and shut by the aid of a stick hanging from the trap-door; through this hole alone light and air is brought into the room, and the smoke from the hearth escapes. If the population led an indoor life, such a hut would be perilous to health, which it is for the women in the towns; but the men and children pass most of their time outside the house; as far as possible all work is performed in the open air, and in most of the mountain kishlaks, especially in the Pamir vallys, the women are unveiled outside the house when they work in the



Wall decoration in plaster in the house of the Jew Isak ben Ghasof in the town of Bokhara.
(The numberless small plaster niches serve as a sort of cupboards).
In the foreground a married Jewess of 12. years.

gardens and fields, not being so afraid here of being seen by strangers as in the oases of the level country and the larger towns of the mountain valleys in East Bokhara; they prefer nevertheless to keep at some distance both from strangers and natives who are not their nearest relations.

In winter no trace of stoves or heating accommodation is to be seen; the whole floor in the well-to-do houses is carpeted, and in the poor one walks on the bare clay-floor. Nevertheless temperature in Bokhara may fall to 20° Centigrade below zero. The poor seek warmth in the hearth-room at the fire of small-cut fagots, make a fire in the middle of the floor in the men's room or wrap themselves up in their sheep-skin cloaks, for fuel is expensive. The well-to-do always have a small square basin in the rooms in the middle of the floor, curiously enough supported at the top by a wooden frame. This basin is filled with embers by the servants, and all round this they take their seats in winter. Wood or manure is used for fuel both of which produce little smoke, and as fuel is used as little as possible, except for cooking, owing to its costliness, smoke above the towns of Central Asia is never seen to the same extent as in Europe. Coal is not known; only charcoal. In the kishlaks in the higher mountain valleys where the cold in winter is severe and lasts long, there is sometimes a clay-hearth with chimney-hole and cooking holes in all the inhabited rooms.

Owing to the want of chimneys and the small quantity of wood in the houses fires are very rare. Only the bazars with their streets covered with rafters and mats are liable to catch fire; it is therefore forbidden to smoke tobacco here, or on the whole to light a fire. The tea-houses and a sort of public kitchens in the towns are situated in streets by themselves outside the bazar or beside the ponds. The Emir of Bokhara did not allow, however, a Russian insurance company to effect insurances of the buildings of the natives, for he thought that they would then begin to burn a little too fast and he knows, no doubt, whom he has to deal with.

Having traversed a greater or smaller number of carpeted rooms according to the means of the proprietor, we enter the women's room or the harem which, when the men who have several wives cannot afford to give each of them her own house or wing, is specially fitted up for them. Along all the walls are a sort of verandas or alcoves and above these balconies. The front of the verandas below and the balconies above are decorated with cross-

pieces or lattice work about 3 feet high, both verandas and balconies being divided into boxes before which a carpet or curtain can be drawn. Thus the whole room looks like a small theatre. It is all of wood and painted in bright colours, mostly red, the walls in the balconies being often decorated with stucco-work or ornamental painting; in the latter a conventional vase filled with flowers occupies the principal place. With the more well-to-do a chandelier often hangs down from the middle of the ceiling or nowadays a petroleum lamp. In the lower and upper alcoves, as they may very well be termed, are heaps of bed clothes, especially quilts and round velvet or silk rolls and embroidered blankets or quilts in cotton or silk. Where the harem is not very great, there is in the middle of the floor a square basin, as a rule only about 4 feet deep, into which water can be led from a canal outside the house by opening the bung-hole of the basin. All round the floor is carpeted. The basin is used by the women for bathing and washing themselves, their children and their clothes. In the house of a rich merchant who had three wives, each wife had her special alcoves above and below for herself and her children in the harem. Tea-pots (chaidjush), water-jugs (aftâbá) and china vessels (pialal) from which the tea or the pernicious opium is drunk (the latter is both taken dissolved in water and is smoked as in China) stood on the carpets on the floor together with the water-pipe (chillem) that is made of dry pumpkins (kaduh) and bamboos (chillem-nai). As a rule the women are very much given to smoking. I have seen many harems fitted up in the same way, especially in the palaces of the Emir of Bokhara, but here only on a larger scale. There is also here near the harem a special, large bath-room for the women to which a hidden passage leads from the harem. The bath-room is a room with pointed plastered vaults, stairs lead down into a large basin, and the floor all round the latter is carpeted. Eunuchs are not employed as superintendents in the larger harems but very old men, and very often or as a rule the pages of the princes and their Begs, the so-called dancing boys, belong to the inhabitants of the harem; such are in the possession of every well-to-do Beg.

The kitchen or the hearth-room is generally the last room reached after having passed through all the others. With rich people and in the palaces it is very often situated in a side-wing. The poor man's kitchen is, as a rule, an ordinary square room with naked clay-walls and an open chimney as in Europe in old times

in the country, or mostly there is no chimney at all, only the above mentioned hole in the roof through which the smoke from the primitive hearth escapes. There is often no special hearth or fire-place, but only an iron tripod for kettles and cauldrons that are placed above the fire below the chimney. The chimney-top is always built outside the wall of the house, probably out of regard to the wood-work in the wall and the roof. There is, however, often a sort of fire-place, built in clay, with fire-hole and holes for cauldrons and vessels like a European kitchen-range, and the shelves for household utensils are clay-platforms formed like stairs along the walls. For roasting meat on the spit which is a favourite dish a small earthenware trough is used or in rich houses a trough of beautifully decorated brass or copper inside covered with fire-proof clay. Into this they put embers, and pieces of meat placed on iron spits are roasted over the embers.

The most ordinary bread (non) is baked in a special oven which is always built in the yard or in the garden. It consists of a massive clay-cube, about 3 feet high, above which there is a hollow cupola with a fire-hole at the side and a hole at the top. The cupola that looks like an inverted jar whose bottom has been knocked out, is made by the potters. Inside the cupola is lighted a fire by which it is heated while the flame escapes through the hole at the top. When the cupola has become hot, the dough is placed in thin layers on the outside where it is baked in the form of immense pancakes. It is generally eaten hot. When kept for a little time it comes to resemble a sort of clap-bread that must be broken. Besides these loaves another kind of bread is also baked that is like large round biscuits. These are baked on a pan on the tripod over the fire or on the fire-place, in the country and in the mountains the latter are often baked by being placed on edge against a pile of burning wood, and one side having been baked, the other is turned to the fire.

Drinking water and water for cooking is taken by the natives from the canals which are led in from the rivers to fertilize fields and gardens. In the towns poor people take the water in a leather bag from the canals which, covered or open, traverse the streets like a sort of sewers, but the farmer or those having a garden in the town, always have small ditches led into the garden or the field from the main canal. In the mountains all water is taken from rivers and canals, there being no springs. It is often difficult to get water enough, especially in the oasis of Bokhara itself, and

as water on the whole in the oases is as precious as gold, the greatest quantity of water producing the greatest harvest, special privilegies often consist in an extra supply of water more than the neighbours, and a specially appointed official (Mir-âb) regulates the distribution. In Bokhara and Khiva a minister manages the irrigation. In the great towns some large deep ponds with stone-setting and stairs are always the reservoirs to which people resort when the water in the canals has run short. As a rule they are full of dirt and all sorts of filth, as the natives both wash themselves in them and drink out of them. To prevent their water from evaporating or becoming fouled by dust during the dry season, they are sometimes covered with a large brick-built cupola. Most of these were built by Abdullah Khan or still earlier. Many of them are now in ruins.

Springs in the oases are rare, and those found are public property. Concession is made of these springs, and consequently their water has to be paid for in ready money, but it has, indeed, the advantage of the water of the rivers that it is clear and cold. Most of the springs in the towns are church property (vakuf), and have been given up to the ecclesiastics. The latter have namely confiscated them as sanctuaries, generally under the pretence that a holy man or prophet has rested here. An aulia is then built beside or over them, and the priests receive the proceeds of the water which is said to cure many diseases. The water in many of the springs is, however, saline, the steppes and oases of Central Asia being remarkable in that the water is very often saline at a certain depth. Thus the artesian borings of the Russians in the southern part of Transcaspia have always met with saline water which has only contributed to the destruction of the vegetation round the spring.

But we return to the kitchen. To filter the river- and canal-water that is always yellow and clayey, people have reservoirs formed like enormous earthenware jugs in which a man may easily hide. They are now and then filled that the loess can get time to be precipitated.

Besides the rooms named here there is also, as a rule, in the great towns a special small apartment used as a closet and never cleansed. The floor is dug out to a deep, sometimes very deep pit, a sort of well, either covered with a brick vault with an oblong cleft in the floor, or covered with boards with a similar opening. Poor people in the towns or people who live in the country have, as a rule, no such closet, but must get on without. Such a con-

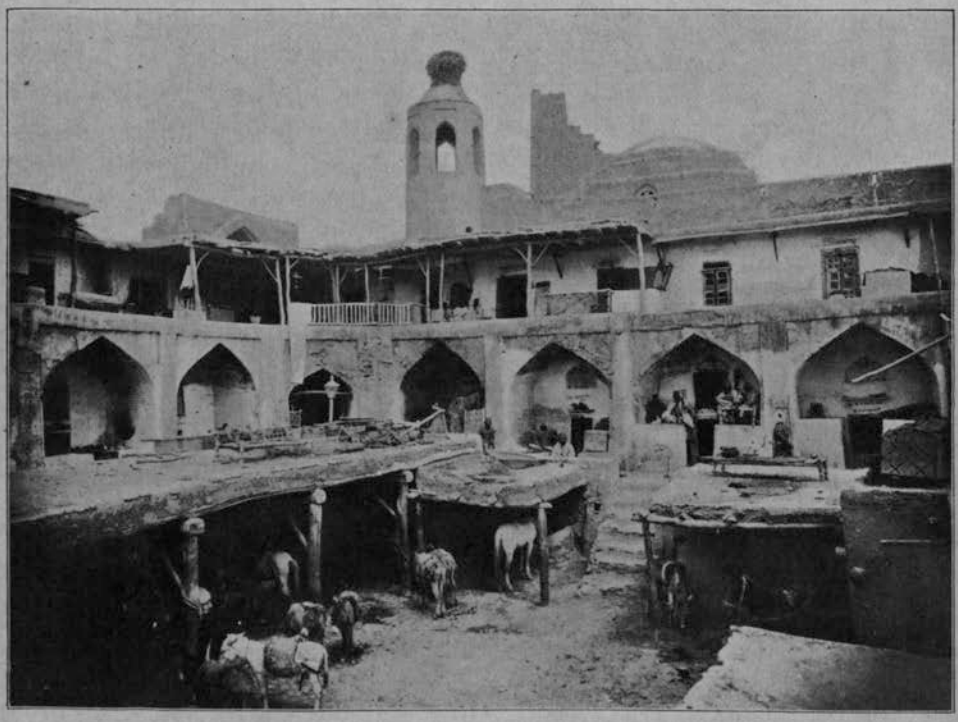
dition of things would seem to infer a fearful degree of filth, but the great dryness of the climate, the insects and the many stray despised dogs remedy the evil.

The gardens are very carefully tended by the natives. There is often an abundance of fruit-trees and vines which thrive excellently, if they are watered sufficiently. Small canals are led crosswise through the gardens where groups of roses (gjül) and many other flowers, especially lilies, the blue iris, narcissi and tulips (lala) are never lacking. In the gardens we meet again with the clay-mounds. They are always built up under the shade of trees or round the trunk of a tree so that one may sit in the shade. Round the elevation water is led in small canals, and for further refreshment there is often in the middle of the mound itself a small wooden turbine which is driven round by the water in the ditches. The rotating vertical axle of this mill that can be set a going by opening a lock, has one or more fans which yield coolness to those assembled on the carpets on the mound. In summer these mounds in the gardens are, as a matter of course, favourite eating- and resting-places.

Those who cannot afford such a luxury as wife and home with the necessary rooms must sustain life without these conveniences. Especially in the greater towns there are a great many bachelors who are in the service of others all their life through or cannot earn so much at their little shop in the bazar as to buy a wife or provide for her. In all the great towns of Central Asia prostitution gets on secretly from time immemorial although in Bokhara, for instance, law provides that every woman who commits fornication for money shall be beheaded. In Bokhara, however, in remote streets prostitute native women behave themselves in quite the same way as their European sisters.

The man who has no family of his own may in all larger towns buy his food in a sort of restaurants or, to put it more correctly, public kitchens near the bazar. They consist of a large clay fireplace in a shop where different dishes are constantly boiling or on the spit. Poor people and bachelors or newly arrived caravan people come here with their clay-pots or wooden vessels to buy the food, that stinks of fat, for some pul, and the host stands behind the kitchen-range with his fan to keep away the innumerable insects and flies from the pots. (In the serais people can only obtain lodging for themselves and their animals, and corn for the latter, not food for the men).

In Central and Fore Asia the serais (serai or sarai) are the same as our inns. As a rule they belong to the Government of the country from whom people receive the privilege of managing them for a certain rent. Apart from the towns where their number is great, there are serais at fixed intervals on the main caravan roads in the country. As necessity requires they are larger or smaller



Caravanserai in the town of Khiva (like those at Bokhara).

from the huge four-winged two-storied serais in the towns to the small mud-house with veranda in the country where the yard is always fenced in by a high clay-wall with gate and pent-roofs with mangers all round the yard-wall for beasts of burden and riding-animals. The larger serais in the towns and in a few places in the country consist of four solid brick-built two-storied wings where the veranda on the ground-floor, as mentioned above, is a continuous series of pointed niches where the doors of the separate chambers are placed. The flat roof of the niches forms a balcony for the rooms in the upper story, and before the latter are generally verandas

of wood and mats. The room is square and dark with one single lattice window in plaster above the entrance door and with mats laid on the floor. A frame and a blanket can sometimes be hired to sleep on. A room here costs at most 1 and 2 tengi the day, or in the more modest in the country what you like to give.

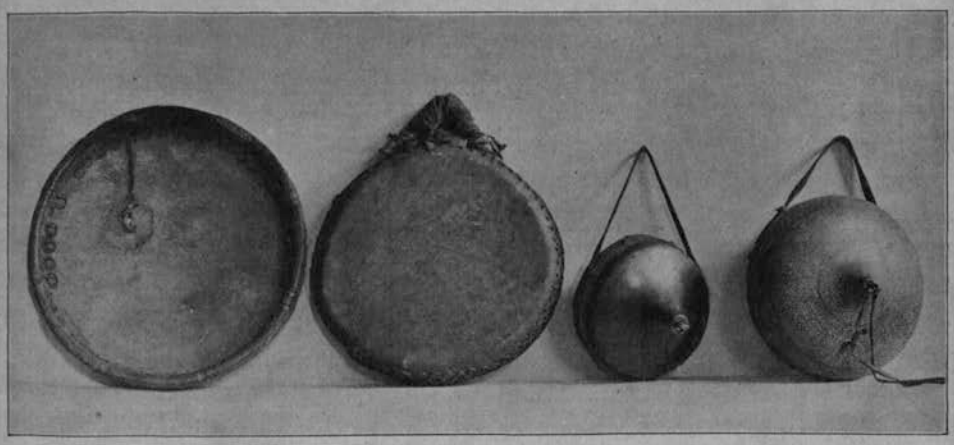
The chai-khanéhs (tea-houses) where one can only get tea, bread, fruits, melons and water-pipe have like all other trade in Central Asia their special streets; they are, principally, grouped round the ponds where the native physicians and the barbers of the town have their shops. The natives principally drink the green Chinese tea which quenches thirst well and whose flavour is rather good. The tea is drunk out of a flat Chinese vessel (pialal), and a draught from the water-pipe passing from mouth to mouth is thrown in. In the chai-khanéhs in the large towns gambling is often pursued on a large scale. They play a sort of chess, play at dice or have cock fights or fights between small favourite ornamental birds (bedannah), and many caravan people often gamble away here both horses and camels.

I shall only in a few words deal with the prisons, which are, indeed, a sort of habitations. They consist of solidly built houses of sun-dried tiles or bricks with various, generally but few rooms; for here both murderers, robbers and small debtors are placed in the same room. Thus the prisoners have the advantage of being able to entertain one another, but often they die here for want of fresh air in the infected rooms where I have often seen them crowded to suffocation. Many who have committed a slight crime and have no relations or friends to plead their cause are often entirely forgotten and remain here, until death relieves them from the prison. The building itself is sometimes only used by the jailers, the prisoners lying in dark subterranean rooms as, for instance, at Bokhara and Charjui.

All round the floor and walls of the prison neck-, hand- and foot-fetters are fastened to strong beams to which the worst criminals are fettered, but the others go freely about or rest on some straw-mats. The prison is often beside the town-gate whose guard is also the jailer. The room in the vaults of the gate is used as a sort of prison where for a smaller fault people are pilloried for some days with chains round their neck and feet to the common pleasure of those passing by.

In the town of Bokhara the prison (sindan) is situated on a hill in the middle of the town inside the inner fortress where is the old

castle (ark) of the Emir, and here is also the native main guard. Some of the rooms are occupied by the worst criminals; they are always fettered, and only a small number stay in the same room where there are but few light- and air-holes. For smaller faults they are put into a partly subterranean room covered above by a large cupola with air- and light-hole at the top and on the sides. In itself it would not be so bad for a poor Mussulman to stay here, there being at any rate light and air in this pit, but the worst is that the pit is always full, so full that they can hardly all of them find sitting-room on the floor. Out of the eight times I have been



From the left to the right, a sort of tambourine, used for accompanying plays or songs.
Drum with skin on both sides, used by the watchmen in all great towns.
Two drums of steel, the one farthest to the right engraved in Persian style;
they are riding-drums used in war or solemn processions.
Nat. Mus. in Copenhagen. Olufsen's Collection.

at Bokhara, I have visited the prison the three and always found it to be equally full. A pestilential stench emanates from the numerous crowd of ragged, famished and sick natives, and one is off in a hurry after throwing a handful pul to the prisoners. Besides this room there is another, also partly subterranean and so low that its inmates cannot stand upright there. Here the criminals are fettered with irons round their neck, hands and feet to strong beams in the floor. Near Sindan were the abominable subterranean prisons, filled with a sort of bad bed-bugs by which the criminals were tormented to death. Here Conolly and Stoddart are said to have been locked up for some time. They do not exist any more, having been destroyed at the request of the Russians.

We shall look a moment at the shops in the bazars where each craft and trade has a street or piece of a street of its own. We see that in the towns they have, as a rule, begun the bazar (tim) by building a vault, a sort of brick temple from which three or four streets radiate or, to put it more correctly, three or four roads fenced in by walls. The vault is the first covered market-place, and on the number of merchants increasing, the latter have fitted up small shops along the walls in building two walls on a platform against the main wall and placing mats or a clay-roof across. By degrees the walls were prolonged, more shops were added, and the bazar streets arose. Issuing from the central vault a roof of mats or branches, hay or clay was laid across the streets, and thus the covered streets (rhasta) came into existence. Behind the walls houses were built in the course of time to receive a larger store, and the shop that looks upon the street is, so to speak, the show-window of the native where he is enthroned among his goods. In summer it it pleasantly cool in the bazar where the air is, however, generally curiously stuffy. To procure further coolness the streets are always sprinkled with water by water carriers who walk about with skins on their back. The merchant never lives or is never allowed to live in the bazar. At a certain hour all has to be shut and locked up here, and then the merchant goes to his home in the town after putting the shutters to his shop. This injunction is, no doubt, very useful against thefts, as it would be difficult to find out the thief, if everybody were allowed to leave his shop when he liked. After the shutting of the bazar in the evening in the great towns also the gates of the serais are closed, and only a small trap-door in the latter, through which the servants of the serai can be called, can be opened from without. No one but the watchman who constantly beats a flat drum that people may hear where he is and that he is awake, is now to be found in the bazar. The gates of the town are closed at 8 and 9 o'clock in the evening at Old Bokhara, and at that hour every native must be in his house. Streets and bazars are dark and deserted, only the lantern of the watchman is seen here and there, no streak of light shines out into the street, and no light suggests to people outside the buildings that thousands of human beings rest within them. In the steppes the camp fires light here and there the camps of nomads and resting caravans. A wonderful calmness prevails everywhere at night, even the wind generally goes to sleep, and the complete silence of the mole-homes of the Mussulmans is only broken by the donkey who

cannot, even at night, stop his dreary, loud braying, and especially by the dogs. It is Satan (Shaitan) crying into the ear of the male donkey: "All mares are dead"! and then he strikes up his sad cry which, however, always ends in a soft and more contented Haw! or Naw! for Satan took pity on him and whispered: "There is one mare left still"! (Bokharan legend).

8.

COMMUNICATION AND TRANSPORT

ALTHOUGH Bokhara through Russia has come in touch with European civilization, roads, communication and transport have not changed much excepting that the Russian railway traverses the country from Charjui over Bokhara and Kermineh. This railway is, of course, of great importance to the connection with Europe and especially or almost exclusively with Russia. Export and import depend upon it, but on account of the extent of the country from north-west to south-east it does not play any part in the internal traffic, as the greater and principal part of the oases and towns are situated in or at the foot of the East Bokharan mountains. A railway from Charjui to Khiva and one along the Amu from Charjui to Kerki have been projected, but the schemes have not yet been realized, and it will take some time before mountain countries as East Bokhara and Pamir obtain such means of communication; the obstacles in the way are apparently quite insurmountable.

In Bokhara one must still make use of the old caravan roads through deserts, steppes, oases and mountains and of the old-fashioned way of transporting goods which was in use at the times of Timur, Jenghis Khan and Alexander the Great. But Bokhara and Russian Turkestan are nevertheless the countries in Mid and Central Asia that are most advanced in the matter of railways which are not found in Persia, Afghanistan, Belutshistan, Tibet etc., except a sort of steam tram running from Teheran to the neighbouring Shahzadéabdulasim and the English railway from Quetta to Nushki and New Chaman in Belutshistan.

The rivers as means of communication. Bokhara has no dearth of rivers, but from the preceding description of the country and the hydrographical circumstances on the whole it will be evident that the Emirate as well as the rest of Mid and Central Asia and

Fore Asia are very badly off as to river roads; all the rivers, except the Amu, are unfit for navigation to any considerable extent, and they cannot be made navigable by artificial means, for on the greater part of their course they run through mountains which attain an immense height and descend to the level country with a steep incline. Consequently the rivers are a hindrance to communication, if anything. Rapid and wild the small mountain brooks fall from the glaciers and the perpetual snow; foaming and dashing over a maze of stones in the moraines, they are very like white threads winding down the steep inclines; they meet at the head of the valleys and then they rush on amongst willows, poplars, thorn and tamarisk. On a broader terrace the course now and then becomes more smooth, but it is too short to be employed for navigation, they tumble down from one terrace to another in roaring waterfalls, with continual bends the waters wind like a cork-screw through narrow ravines in the hard rocks, and the swirling and eddying whirlpools rise above stones of the size of houses, while the raging waters dash against the bank with such a tumult that it is impossible to hear a shout or the report of a rifle even a few steps off. The water having escaped from the mountains rushes on across the plain, at first with a rapid current, but slackens its pace very soon; for the enormous force with which the water tears a way for itself through the mountains causes it to sweep along with it masses of suspended matter that are dropped on its first course through the plain; a mound is thus formed round which the river flows divided into several arms; these arms deposit new mounds round which they flow, and at last the huge waters divided into many smaller streams run down a conically shaped rampart whose apex is at the gate of the valley and whose base is in the level country. Pebbles and gravel fill up the conical surface over which the small rivers wind in a maze which the topographer finds it difficult to unravel, for sometimes the arms run parallel, sometimes they meet and sometimes they recede from each other, but of course they mainly follow the shape of a fan. This spreading of the water which is continued through the steppe or the desert occasions the disappearance of most of the smaller rivers whose waters become absorbed by irrigation of oases and of the river banks where there is loess; else they are lost by evaporation in the enormous summer heat, and the last dwindled arms end in salt-bogs and pools in the steppe or the sandy desert. The rivers are born at the foot of the perpetual snow, they live on their way through the mountains where

they are nourished by many tributaries; for in the deep, often dark valleys the evaporation is not of any great importance, and the demands upon the water for purposes of irrigation of the narrow cultivated banks and terraces are not so great as in the extensive oases in the level country; they die in the warm plain which is rainless in summer.

The large rivers which have water enough to force their way farther out into the plain in spite of irrigation and evaporation are during their course through the level country generally very broad in proportion to their quantity of water, and consequently very shallow. Loess dust from oases and sand from the desert drifts into their beds, and when it has been deposited it forms islands or elevations in the river; and in midsummer the latter becomes so exhausted owing to evaporation and irrigation that the stream which was broad and mighty in spring is divided into many smaller arms, each of which becomes unfit for navigation and often too deep or too miry to be crossed on horseback or in a carriage. When these deposits of loess or sand become bare and dry in summer they are often moved by the wind from one place to another in the river-bed so that it is very difficult to navigate the river even in spring when there is much water, because one never knows where the sands and the bars are now situated. Charting of the courses as it has been tried in the case of the Amu Darya becomes quite useless as the chart from one year will prove to differ very much from that of another.

One more difficulty as regards river-navigation in the level country is due to the fact that the hot, dry, cloudless summer is followed by a severe winter, so that even the largest rivers in the level country are covered with a thick layer of ice, not to speak of the rivers in the high mountain regions where even the rapid Pandsh is covered with ice which gives a stagnant picture of the manifold movements of the waters during the hot season; thus navigation is made impossible during the coldest winter time and difficult from the ice-drift when the sudden thaw sets in in spring. It appears from this short survey that the rivers are on the whole a hindrance to communication; only on the Amu Darya is the boat traffic of great, the steam traffic of a little less importance.

Roads in the level country. On the Russian maps a route between two towns is given by two parallel lines, but this does not mean the same as a high-road in European style; it only in-

dicates a main route, a much-frequented stretch. Regular roads are in Bokhara so rare that I do not remember more than one from my travels here, namely the road of a length of 12 kilometres that leads from the railway-station of New Bokhara to Old Bokhara. Owing to the great traffic between the station and the town the Russians have induced the Government of the Emirate to macadamize and enclose the latter with ditches in quite the same way as a European high-road, while all other roads in the level country are very much in the state in which nature and the hoofs of camels, horses and donkeys have left them i. e. a road or path has been trodden down from town to town, and its quality is regulated by season and weather. Of late a branch-line has been built from New Bokhara to the residence of the Emir. That the railway does not touch the walls of Old Bokhara, is said to be due to the Emir who by his prayer prevented Satan's carriage (Shaitan Arba), the name by which the natives call the railway, from coming near his holy town. It is more probable, however, that the Russians were deterred by the numerous watering-canals in the oasis of Bokhara and the great expense involved in filling up and in building bridges.

Mountain roads. We shall now deal at somewhat greater length with the several kinds of roads and passages, such as mountain, desert, steppe and oasis roads. In the mountains roads are practically out of the question; only bridle-paths or at most foot-paths are found here. As a rule they wind through the valleys along the rivers like bright, trodden lines, sometimes they follow the bottom of the valley, and sometimes thousands of feet up the mountains they pass vertical precipices or cross fords on the upper course of the tributaries, where there are lots of rolled down blocks of stone, or traverse one pass after the other where it is difficult to find the path without a guide.

Between the smaller towns or villages in the highest mountain valleys no attempt has, as a rule, been made to improve the routes, the population is too scarce and too poor to undertake such a task. Between larger towns the path is sometimes cleared of stones, or, a rickety and perilous gallery is built along steep mountain slopes to avoid détours across the higher passes. It is, of course, always dangerous to follow these paths, but the small sure-footed horses are well adapted to mountain travels and soon discover whether or not the path is good, and in summer the ground is generally firm. But in winter the passages are always perilous in the mountains

where the snow lies. Then it is difficult to find out the paths, and in spring the danger is very great, as avalanches and mountain slips occur every moment; in some places fragments of rock roll down incessantly, and nowhere are the roads or paths covered.

In the higher mountain regions bridges across the rivers are rare. As far as possible one rides across the river where the water is not too high, otherwise one is obliged to take a route round about it or wait till the water becomes lower or take measures of one's own accord, for time is of no importance in Central Asia. Bridge building is very difficult, because there is generally a want of sufficient timber, and in these regions nobody constructs bridges of stone or metal. Where the rivers on important routes are narrow enough, there are sometimes small bridges consisting of a few trunks of poplars across which branches are laid, and on top of these some flat slates picked up on the mountain slopes are at last placed; there is often only one single trunk across which one can only carry a little baggage on one's back, or two trunks are placed beside each other; in the somewhat better administered districts they are connected with cross-bars that are fastened to the trunks with osier-bands. Such a bridge can sometimes be traversed by an unloaded pack-horse, if the latter is led cautiously by means of a long rein held by the man who has to reach the other bank, before the horse treads on the bridge. In some places on the narrow upper course of the rivers two trees are bent across the stream, and then the natives crawl like monkeys over this primitive bridge. On the lower course of the rivers where the valley widens out and the cultivated oases increase in size, there are sometimes bridges with bridge-heads of piled up stones and platforms resting on rammed down trunks of trees and covered with cross-bars bound together with osier-bands. (Willows and poplars are the most common timber trees). The bridge across the Surkhab near Garm in Karategin was even provided with a balustrade of osier-bands. Bridges of the latter good kind are very rare in the mountains; across the huge river Pandsh there is only one on the stretch from Vakhan to Charjui, where the river is impassable without artificial means. It appears from this that the bridges are so few that they are of slight importance to communication, and practically of no use to the explorer who is always obliged to avoid the main routes.

When a caravan meets a river in the mountains, one thing is, so to speak, always certain, namely that somehow or other one must go down into the water. One must either try to ride across

the stream which is easy owing to the stony bottom, but difficult because the saddle-horses are apt to stumble, and if a man falls into the water, the rapid current often carries him off, or one must cross the river on inflated hides, each man by himself with a small bundle of baggage on the nape of his neck and then drive the beasts of burden into the water where the river curves and the retrograde current or cross-current carries them to the opposite bank; finally one may make floats of several hides and ferry across dry-shod, while the animals, as stated above, swim across the river. If the natives have but one horse at their disposal, they often cross the water at the fords one or two mounted on the horse, while the others who catch hold of his tail are drawn across half swimming. At the fords donkeys are, as a rule, put on the backs of horses or camels with their legs tied together, as even shallow water where the current is rapid would sweep the small animals off their legs. Boats are unknown to the mountain people and would, indeed, be of no use on these rivers.

Desert roads. Roads and any improvement of the routes through the deserts are out of the question, except that the most important wells are protected. One has to wade through sand dunes, many metres high, into which the camels sink to the belly, but it is remarkable that even in the worst drift sands a long row of firm valleys is often found between the sand dunes where now and then a reed or a tamarisk grows, so that the passage is not so bad after all, if only the sand is not stirred up by a tempest, or heated in summer to 60° and 70° Centigrade, for then the crossing becomes intolerable and dangerous. The old caravan routes have, indeed, been laid out of regard to these circumstances. The marches must pass from well to well, and perhaps it is not out of the way to remark here that even in the drift sands it is often easier to obtain water than in the grass-covered steppes. It is well-known that sometimes it rains in the desert, and often very violently, indeed; then the water oozes down through the sand into the cavities of the subsoil where it is sheltered from evaporation by the layer of sand; but on the clayey surface of the steppe which is hard as stone, especially in summer, the rain practically immediately evaporates. Even in July and August one may in the drift sands dig down to the water in many places, whereas in the same season it would be hopeless for a caravan to dig for water in the steppes. Excepting in the clay desert the caravans are so

far well off in all kinds of deserts as, apart from the drift sand and the frequent salt-pools and bogs there is, as a rule, solid ground, and rarely any snow worth speaking of lies on the ground in winter.

The steppe roads. The roads through the steppes are nothing but rough tracks or trodden down caravan roads where the passage often affords great difficulties in the wet season. Then the soil, generally consisting of loess, becomes like a sort of bird-lime. Riding animals, beasts of burden and carriages often stick in it to such an extent that extraordinary measures must be taken to draw them out, not to speak of the animals' slipping every moment in the slimy mass.

As carriages and caravans continually encroach upon the grass beside the rough steppe road the latter becomes broader and broader in the course of time. In summer when the loess is as hard as cement and the roads worse to drive on than frozen plough-land the same encroaching upon the sides takes place. On much frequented stretches the loess is ground down to an often bottomless layer of dust in which in calm weather the carriage or caravan is wrapped up as in a suffocating fog: one's clothes are covered by a layer of dust an inch thick, and the dust penetrates into one's eyes, nose and ears so that it is difficult to breathe. The natives sometimes place branches or bundles of reeds and tamarisks on the steppe roads near the oases both for the wet and dry season, but they are left in very much the same state as it pleases the changing seasons and the weather. In some places boundary stones or land-marks indicate the road, especially in snowy weather, but these are rare exceptions; the roads through the steppe and the desert are everywhere intricate and require a good guide in the form of natives or of compass, sextant and chronometer.

It may seem curious that no more is done or has been done for the improvement of roads between rich oases with thousands of inhabitants living together in a few commercial towns; but first the extreme negligence of the Orientals must be taken into account and further the enormous distances covered by the roads through the steppes, and to this may be added that one may ride for days and weeks through the loess steppe without finding a stone or a tree by means of which macadamized roads or military roads could be made. Where the steppe goes down to the large rivers the bank is often covered with a wood of reeds, 4 and 5 metres high, or a jungle of tamarisk and camelthorn; when under water the ground

is impassable, and in the dry season filled up with tufts which impede the passage, so that the traveller is obliged to cut his way through the wood of tamarisks and reeds. To make roads in such regions requires an enormous supply of money which only gives interest between the largest commercial towns.

The roads of the oases. In contrast to the other roads these are more diligently tended owing to the great traffic passing through the cultivated regions. The roads come under a special minister by whom subordinates are appointed who manage the repair of old and the making of new roads. But here as everywhere in Central Asia nature has thrown great obstacles in the way of the population, especially because there are never stones in the loess regions of the oases (there must always be loess where the soil is cultivated); consequently it is only in regions near mountains that stones can be obtained for the roads. Repairing of the roads through the oases only consists in their being levelled with loess and often enclosed with ditches; the latter means that a watering-canal is led along the sides of the road so that drinking water may be conducted into houses and yards on the road; and when the canals are dredged, the slush is spread across the road which thus becomes higher and higher. Willows, poplars, elms and acaciae are often planted along the ditches where they thrive on account of the continual irrigation and are later on used for timber. The Russians have in most places of their sphere of interest ordered the inhabitants to plant trees everywhere along the roads, especially acaciae owing to their rapid growth, both for the shade afforded in summer and to meet the want of timber in the oases.

In one respect, however, the making of roads in the oases requires considerable labour from the careless Orientals, namely in the building of bridges. For the artificial irrigation on which all cultivation is dependent the water from the rivers is led in canals across the oasis which is traversed by a close and intricate net of waters of which the main canals are often up to 15 and 20 metres broad and about 5 metres deep. From the main canals smaller are dug to the sides; the farthest off lateral branches end in small ditches and drains through corn-fields and gardens; the fields, especially the rice-fields, are embanked with earthen dikes, that the water may remain over the plants for a longer time; but consequently such an oasis practically consists of bogs and canals. It is therefore very difficult to traverse the oases outside the roads, if

one is not accompanied by guides who know the region well, and at night it cannot be done. All these canals and arms of rivers require an enormous number of bridges on the roads, but their structure is, indeed, not better than might be expected. As a rule, they only place some trunks of trees across the narrow streams and on top of these branches, hay or reeds and then a layer of clay. Balustrades are generally not thought of. Across the broader canals are built arched bridges of unhewn trunks of trees covered with cross-bars on top of which are branches, reeds, hay and clay. In by-gone times there were a few brick bridges in East Bokhara; but they have almost totally disappeared.

One should always pass these native bridges with great caution, innumerable are the times my carriages or caravan animals have sunk through them, and even in the bazars of the larger oasis towns where the canals convey drinking water into the town and are covered with trunks of trees, branches, reeds and clay etc. it is no rare thing to see a riding animal or pack-horse step through the rotten structure and break his legs.

The Persian proverb: "The bridges are there as a warning against one's passing them", is also adequate here.

However primitive are the bridges of the oases, one can always advance with riding animals and carriages and only on wanting to spare a détour does one cross the rivers or the broad watering-canals on a gema. But outside the oases, in steppes or deserts, where one meets broader rivers, special measures must nearly always be taken owing to the extreme scarceness of bridges.

Until a few years ago all the bridges were wooden structures, and even the railway-bridge across the Amu Darya was until about 1900 nothing but a wooden bridge about 3 kilometres long, groaning and complaining in all its joints when the train traversed it; the passengers therefore, as a rule, preferred walking across the bridge in front of the train. In 1900 an iron bridge was, however, built for the railway across the Amu Darya. But a glance at the map shows that these few bridges are only for the advantage of the railways, the main roads and their very nearest precincts, between the bridges there are often stretches several times the size of Denmark. Besides the perceptible want of building material it is no unessential hindrance that the rivers in deserts and steppes often change their course through the flat regions when the river has swept too much suspended matter along; the immense number of arms of which the rivers often consist vary from year to year

in number and course, and finally an anormal snow-fall in the mountains may cause inundations which together with ice-drift level both bridges and towns with the ground.

Several times in the year the railway-bridge across the Amu Darya was broken, especially during the ice-drift on the river. In most places round the upper course of the Amu Darya that are only elevated one foot above the level of the water the territory is inundated nearly every year so that towns are cut off from one another for a long period of time, and the rickety clay-houses are swept away.

River-crossings in the level country. The measures which must be taken to cross the rivers in the level country outside the bridges differ according to the special faculty of the inhabitants. In some more frequented regions there are on both river banks ferries with gemas on which animals and carriages must be loaded, and in some places ropes are stretched from one bank to the other by means of which the gema drives across the river. Such crossings are not without danger, for the gemas are narrow, and horses and carriages must be placed crosswise to give room; the animals often become restive, and very little motion makes the gema with its contents turn round. We have often stood anxious and exited on the gunwale of these gemas, holding on to the horses' tails; a requisite number of men were placed on each side of the gema that the centre of gravity could be changed, should the animals become restive, but only once did two horses fall into the water; the greater the danger, the more attentive one becomes, and even the animals seemed to understand that they had to keep quiet, which is no wonder as they are accustomed, like man, to fight their way through great difficulties.

The old railway-bridge across the Amu Darya. (Replaced by an iron bridge in 1900—01.)

In some places in the level country as in the mountains one ferries across on an inflated hide (goat's or wolf's skin) or on floats

formed of such, but where it is possible one crosses the fords on horseback; if one's horse is too short-legged, camels must be obtained from the nomads of the steppe, and then one swims the horses after the camels; if, finally, the latter are not tall enough, one waits, like the natives, until the river sinks; often it takes a good deal of time, but hurry is not to be thought of in these regions.

When, for instance, a Russian tarantas cannot be taken across, it is dragged by ropes after one of the high-wheeled arbas of the natives, and in the latter the traveller takes a seat with his baggage. In strong current the water dashes across the arba, and to prevent the baggage from getting wet, the traveller lifts it up into the air and has it carried across by degrees in small lots, while natives, mounted on camels on each side of the arba, with ropes fastened to the carriages prevent the latter from being upset by the current and swept off. If the tarantas cannot be ferried across, which is often the case, one must sell it to a chance buyer and then buy another carriage on the opposite bank. In winter the rivers generally are so waterless that they can be crossed at the fords, and it is possible to traverse the Amu Darya on the ice, boats being held in readiness. During the ice-drift, especially in March, all passage excepting over the bridges is impossible for a long period.

Means of conveyance. Carriages can very rarely be employed and at any rate only in the level country and in the mountain valleys within the larger oases. The roads are not adapted to European carriages that are somewhat slight of build and a European landau, for instance, would very soon be spoiled. Everywhere in Russian Asia is used the so-called tarantas consisting of a boat-shaped frame of iron-plate or wood resting on pliable poles across the axle-trees. The best of them are provided with a hood, and behind there is room for a little baggage. The carriage is drawn by three horses, and in spring when the roads are soaked, by five; even thus it is very difficult for them to drag it through the loess slush. Tarantases of the same shape as the latter, but much smaller, more primitive and not provided with any hood are also in use, and sometimes one is obliged to put up with still more primitive conveyances; on the whole, it is difficult to procure European conveyances in Bokhara excepting the well-known small Russian cabs which are seen in great numbers on the road from the railway-station of New Bokhara to Old Bokhara. The drivers are native

coachmen, not fit to drive a carriage outside this beaten road. For longer stretches the traveller must convey reserve horses fastened by ropes behind the carriage, and provisions. Outside the larger oases in the level country driving is, however, too difficult to be very usual, as the carriage cannot be repaired on the spot.

That question may be asked: how is the post? for, of course, many letters are despatched by native merchants, officials etc. and by the Europeans. Apart from the railway the post is everywhere taken charge of by the superintendents of the towns and villages whose duty it is to forward letters and small parcels to their neighbour superintendent, always by a mounted messenger; in spite of the immense distances the post generally reaches its destination, and indeed fairly quickly.

Covered arba.

Letters are also transmitted by the caravans which pass between the larger oases.

Besides the conveyances already mentioned one more is still in use whose appearance is the same nearly everywhere in the level country of Central Asia. This is the two-wheeled arba, employed in all these countries; the shape is practically the same. The wheels are very high, often 2—2½ metres high, and it is broad or narrow according to the needs of the region concerned. There are, as a rule, two poles between which the horse (there is never more than one) is put, and farthest behind between the wheels an osier-bottom is made between cross-bars and the poles. In Bokhara the arba is often provided with a sort of hood to protect from the sun; it is made of linen or even of silk in motley colours and is decorated with manifold metal mountings. When more elegantly furnished they are as a rule intended for conveying women and children of the richer classes. Thus I often saw women from the harem of the Emir of Bokhara being carried in covered arbas followed by an escort from the main town to some other place fixed upon by the Emir as his residence for a shorter time. Considering

that they are old-fashioned conveyances the arbas are very practical, being rarely upset owing to their generally wide gauge; with their high wheels they traverse fords and canals more easily than European carriages, and they are also easily repaired. In some of them the axle is fastened to the bottom of the carriage, in others the wheels are fastened to the axle, swinging in osier-straps below the carriage, and one of the wheels is often fastened to the axle while the other runs round on the latter; in this case the arba can according to the natives be more easily turned. The felly of the wheel is made of a bent trunk of a tree, and as the latter cannot always be made quite circular, the movement of the carriage is often curiously jolting, it looks ridiculous and does not contribute to the well-being of the traveller while advancing along the rough roads; the driver is always mounted on the horse. In Karategin the sledge is also used as a carriage, as dealt with in the account of my travels through Shugnan, Roshan, Darvas and Karategin.

Beasts of burden and riding animals. These are the camel, the dromedary, the horse, the donkey and the yak-ox. The camel and the dromedary (tüa) are decidedly indispensable; it would be, so to speak, impossible to keep up communication across deserts and steppes without caravan animals which are able to thirst for a longer period, and they are, indeed, employed to a great extent. The camels of Bokhara, both the one- and the two-hunched, are renowned from time immemorial. They are of the same race as the famous Bactrian camel and the camel from Andkhui. Although they are inhabitants of the plain and decided haters of ascents and descents, they are nevertheless used in the mountains where the passages are fairly good, especially devoid of stones and so broad that the large animals can advance with their burdens. When one wants to use them in mountain regions, one must be aware of the quality of the routes and the steepness of the ascents; if the ascents are steep and the paths stony or narrow, one cannot get on with these animals. The natives who are thoroughly acquainted with the mountains which they have to traverse employ them, because they are capable of carrying a much heavier burden than other animals, and also because their pace is more even than that of the horse; they are consequently better adapted to the conveyance of fragile objects. To scientific expeditions which convey many sorts of instruments it is a great advantage to employ them; the short shocks which the baggage suffers on horseback are avoided

on camels or dromedaries. The camels advance slowly, because always pacing; but a lighter kind of dromedaries are even considerably quicker than the horse. It is a pitiful sight to see camels moving up and down even lower mountain passes. Upwards they manage fairly well, but the descent is very irksome for them. They groan at each step and will suddenly throw themselves down with baggage or rider which is decidedly dangerous to the latter; and they cannot be forced to advance further. The intense heat in summer torments them very much, and during this season the night is preferred for travelling, while the caravans take rest by day. They cannot stand severe cold either, and in winter they are therefore covered with thick felt rugs. In spring and autumn, when the slopes are slippery, they are not used in the mountains, as they cannot find foot-hold with their broad feet which are adapted to the sand of the deserts. One autumn when the weather suddenly turned wet in the mountains, I was obliged to suspend my march with the caravan of camels, as it was impossible for the animals to keep upright on the greasy slopes. In such cases one is obliged to make the natives exchange horses or oxen for the camels.

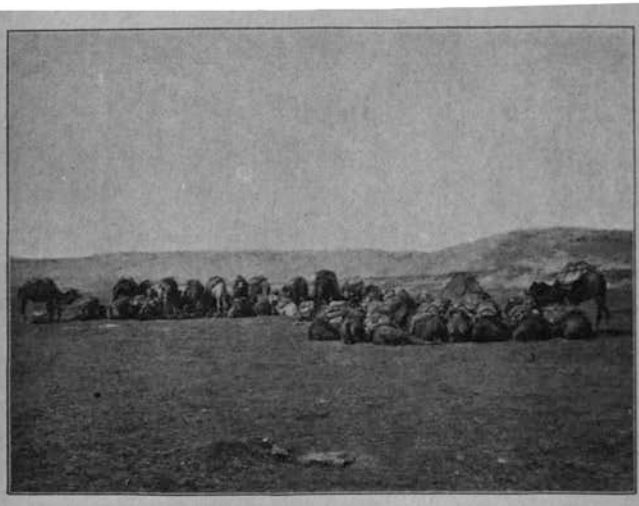
How wheels for the arba are made.

But in the level country the camel is an excellent caravan animal; on longer marches he carries 400 pounds, on shorter 6 and 800 pounds; he walks steadily and owing to his height he is well adapted to crossing rivers. For the same reason he can be loaded with voluminous things; thus one day I saw one camel loaded with two large wardrobes and another strutting on with one of the well-known Russian stoves.

If one wants to get on more quickly, one chooses lighter dromedaries which cannot, however, carry much more than horses. A good camel can in 14 consecutive days cover about 7 Danish

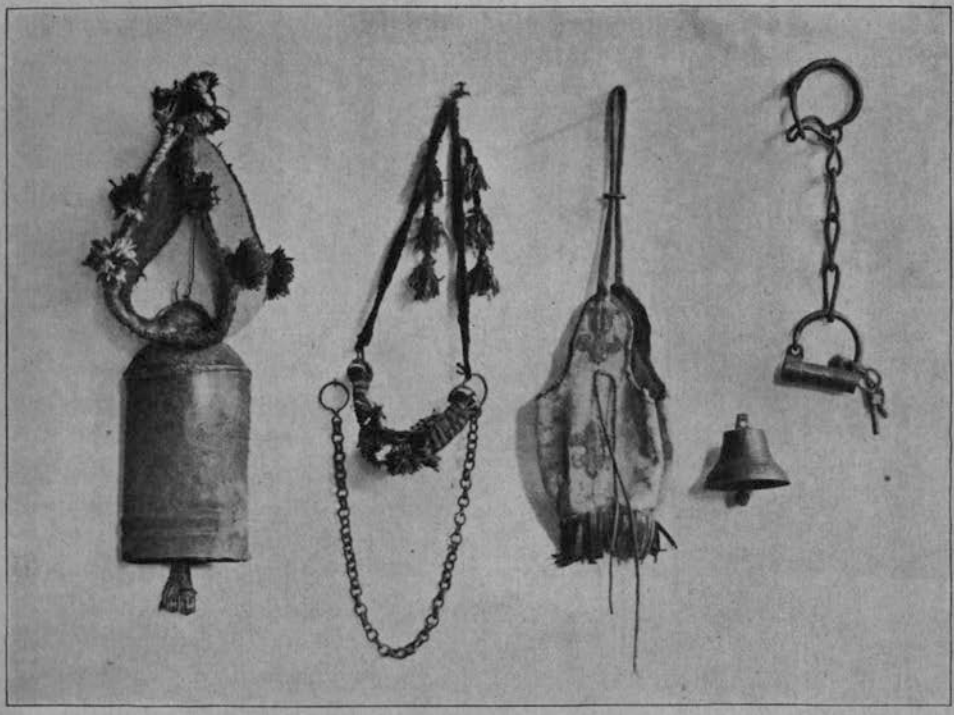
miles a day. The camel is a very patient animal, excepting the males during the rutting time, when they kick and bite and are sometimes very dangerous to deal with.

The head-gear of the camel and dromedary is generally nothing but a strong bone or wooden stick thrust through the partition-wall of the nose, in which is tied a rope, or for the less refractory a halter. The rider manages them by means of this single rope and a long cane. If loaded, the rope of the head-gear is fastened to the pack-saddle of the preceding animal. The pack-saddle consists of a sort of mattress stuffed with straw, hay or cotton and with holes for the hunch or the hunches. On a two-hunched animal square frames are connected on each side of the saddle with thin poles along the latter, and the saddle is then ready for loading. If the camel or dromedary is used for riding, the seat for the rider varies very much. Sometimes only a bundle of felt is placed on the pack-saddle and on top of this a common wooden riding-saddle such as is used on horses, or else they have a special, high wooden saddle, grasping the hunch like a fork. The leaders of transport caravans have, as a rule, no saddle at all, but sit down in the best way possible between the two bundles of baggage balanced on both sides of the animal. For transport of passengers two baskets are often suspended across the pack-saddle; in each a person sits or only one basket is hung on one side in which one person balances the baggage hanging on the other side. For the conveyance of women and children lattice-cages are often suspended, balanced two by two, across the camel (also on the horse). The cages look exactly as cages for wild beasts in menageries, having also a lattice-door. Inside the close rails the women can sit unveiled without strange men being able to catch a glimpse of them, and yet enjoy the view and the air. Both



Camel caravan in the desert near Bokhara.

the cages and the baskets are called "kedsheve". It must often be a very unpleasant way of being conveyed; thus I have seen them advancing along narrow paths where the kedsheve hung over the precipices. For women of quality or old delicate persons of rank a real wooden platform is placed on the pack-saddle; it is fitted up with a canopy, and the camel is caparisoned with costly covers

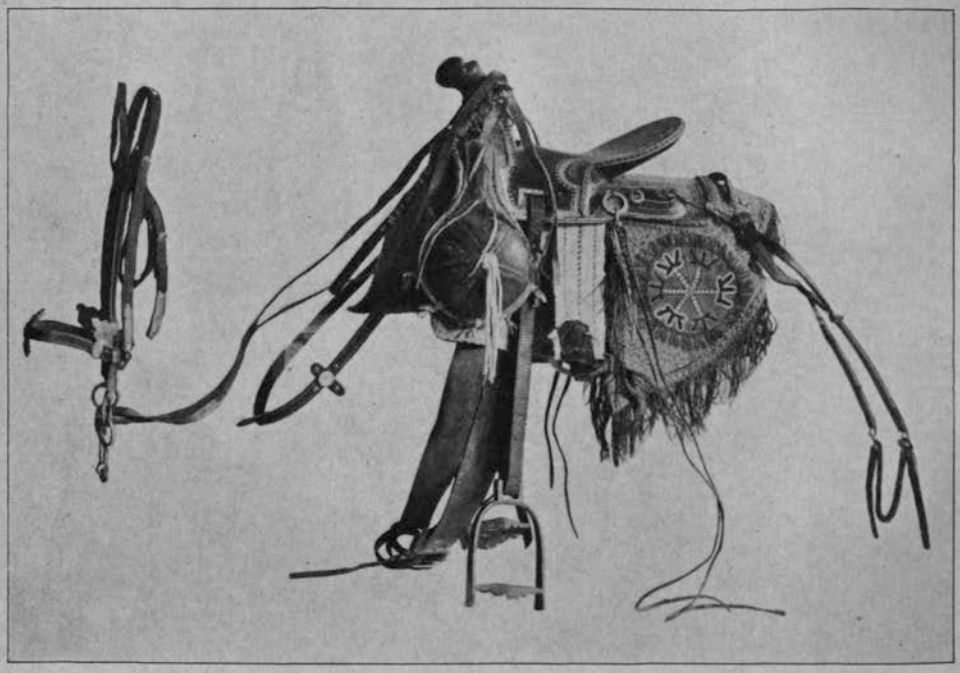


From the left to the right: bell suspended round the camel's neck; the bell is of iron-plate and the tongue is a bone of an animal; halter for a camel; leathern case for the tea-jug which is fastened on to the saddle; bell of brass for a caravan horse; chain to be passed round the fore legs of the horse during the rest; it is provided with the original padlock.
Nat. Mus. in Copenhagen. Olufsen's Collection.

with fringes and tassels. Great pomp is occasionally displayed, but nevertheless it is one of the rarer sights. Round the neck of the camel is tied a broad many coloured band with the indispensable bells of copper, brass or iron-plate and with a tongue consisting of an animal's bone. Everywhere in Bokhara especially during the light calm nights one hears the exhilarating sound of bells on the caravan roads.

The camels are also used to labour; Turkomans and Kirghiz often plough with teams of camels, and the Russians and European contractors employ them for heavy draught; when a new railway was being constructed, I often saw the solemn camel dragging along an immense truck.

Camels and dromedaries differ very much in appearance in the various regions, but they never afford such a pitiful sight as those met with in our Zoological Gardens. In some parts the race is

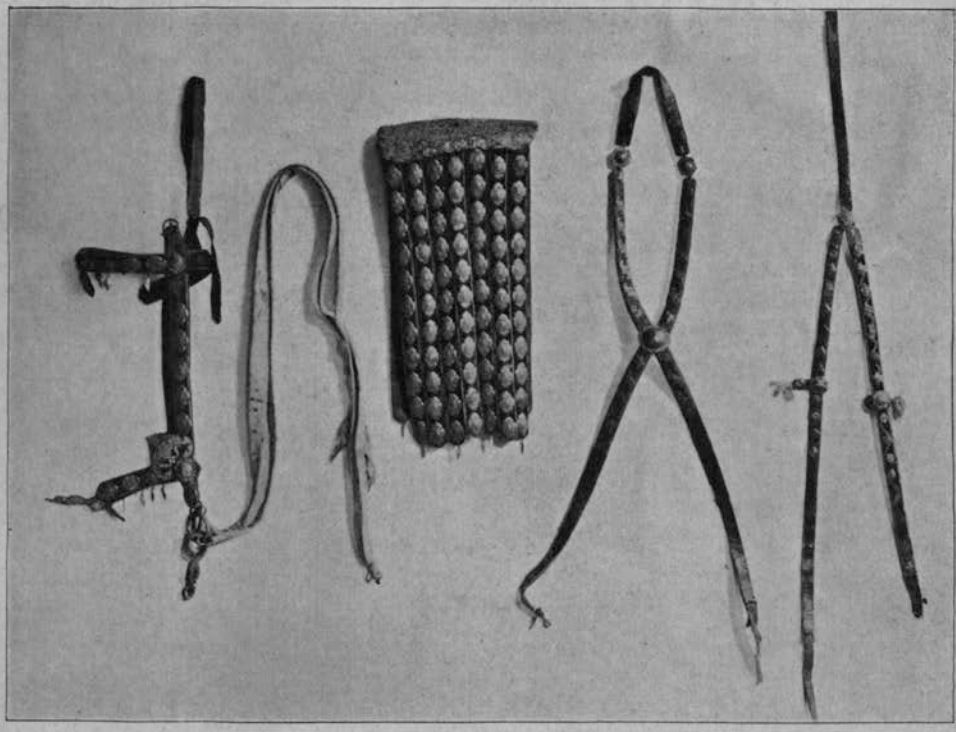


Bokharan horse trappings with silvered iron-building. Head-gear with snaffle (branch is never employed). The small lackered wooden saddle (egâr) inlaid with ivory rests on stuffed cushions and an embroidered saddle-cloth lined with felt. The caplike leathern case on the saddle-horn is a so-called chinegob in which are kept tea-vessels; tea-jugs are fastened to the leathern strings hanging down behind. Nat. Mus. in Copenhagen. Olufsen's Collection.

smaller, elsewhere larger and stronger. On the steppes the most magnificent camels of Asia are seen, renowned from times immemorial; large animals which during the season when their coat is fine and thick look really fine and imposing, they are very strong. Otherwise these animals look, as a rule, more or less shabby throughout the greater part of the year. They are content with very little and for a long time they can live upon the stiff

camelthorn and other shrub which no one but the camel thinks of eating.

The Horse (at usb, asp tadj). Properly speaking the horse is the most important riding animal and beast of burden. It is indispensable everywhere. On horseback one advances along the intricate roads and paths of the oases and the most inaccessible



Bokharan horse trappings mounted with plates of gold and decorated with turquoises. From the left to the right: head-gear, ornament for the neck, fore and hind tsraps. Nat. Mus. in Copenhagen. Olufsen's Collection.

mountain routes, but only, indeed, where water and food can be produced. To possess a wife and a horse is to the Bokharan among the most essential things. The horse is as well treated and groomed as a woman as long as he is fit for riding, then he is made use of as a pack-horse, and if he does not succumb under the heavy burden on the marches, he is driven out into the steppe with his body full of running sores to be eaten by the wolves or he must go round in a small cotton- or rice-mill during the latter

part of his life. The manner in which the worn out horses are treated in Bokhara is pitiful beyond all expression.

In caravan travelling in the mountains it is, as a rule, the horse who is the sufferer, and only on the most dangerous routes or in the snow in winter is the yak-ox used to any extent instead of the horse. But the caravans conveying baggage in the level country are also often seen to consist of horses, sometimes several hundreds in the same caravan. They cannot, indeed, be loaded so heavily as the camels, but they are much cheaper than the latter, and where the route in the level country is only traversed by a few ranges of hills, the horses are, as a rule, preferred, as in the mountains there is the risk of losing one's camels from the reasons mentioned above and also because they do not stand hard weather nearly as well as the horses. Especially where wind prevails in connection with winter cold, the camels are very badly off.

The horse being such an indispensable animal, it is no wonder that horse breeding is very common everywhere. No one walks even the shortest distances, he must always be on horseback, both the inhabitant of the oasis, only going errands in the bazar, or the nomad of the steppe. The natives cannot understand that Europeans walk to take exercise or to look at some thing or other; for they ride through thick and thin from childhood and are consequently born riders.

But they are not good riders in the European sense of the word; for if an inhabitant of the oasis or a nomad were placed on a large European horse, he would certainly after a few seconds lie on the ground, and it holds good even of the best riders, the nomads, that they cannot make the full of the horse's pace, they fall off the horse when they take a gallop across the steppe while the European keeps a firm seat on the saddle. If their horses become restive and shy, they are also thrown off, because they always ride with very short stirrups, so that their knees are almost on a level with the saddle. They do not like to ride on mares, as this is not considered proper. The riding-saddle is a high wooden saddle with a horn in front and resting on felt rugs, woven rugs and cushions. Across the wooden saddle a quilt is laid which is used as a bed by the traveller during the march, and the most necessary luggage is conveyed in the so-called kurdjum, a woven wallet, placed on top of the saddle on the quilt; the rider sits on the middle of the wallet, the bags hanging down on either side behind the rider. The horse is always ridden on the snaffle, spurs

are unknown; as means of punishment the short whip is employed, kamtshé, that has the same appearance as a hunting-stock. The pace is always a quick walk or canter; they dislike trotting.

The Asiatics in Bokhara are remarkable when compared to the Europeans for an almost incredible perseverance and the horse is trained to be as enduring as the men.

When used as a pack-horse the horse is covered with felt rugs, on top of which is placed a pack-saddle, a sort of mattress

Saddle-cloth of velvet with gold-brocade. Only to be used by the Emir and the highest dignitaries. Nat. Mus. in Copenhagen. Olufsen's Collection.

stuffed with hay or straw. The baggage has to be suspended by horse-collars or ropes across the saddle, balanced on each side of the horse, and the burden should not weigh more than 200 pounds; on longer marches not more than 125—150 pounds. Owing to the great need of horses the nomads breed lots of them; herds of thousand and more are often seen both on the steppes and in the lower mountains, and the nomads do an extensive business with them in the towns of the oases at the large fairs.

In Central Asia the horses may be divided into two classes, namely the oasis- and the steppe-horse. The oasis-horse is larger (often 30 inches), coarser and more clumsy than the steppe-horse. The

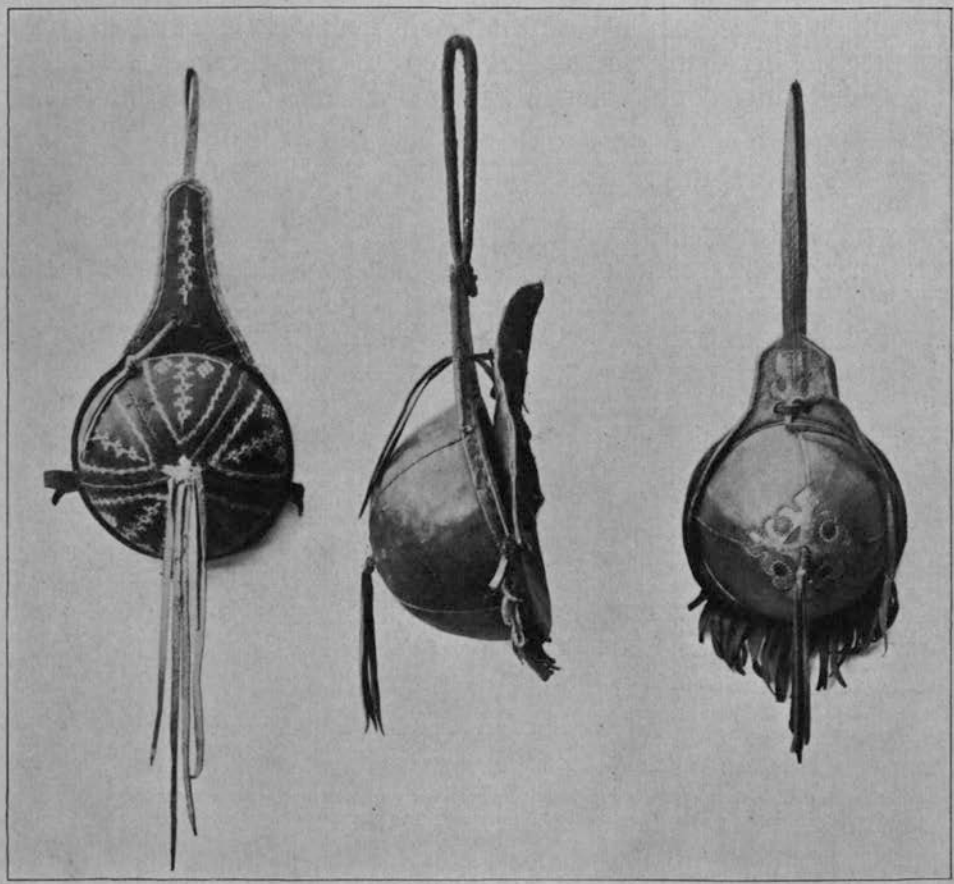
latter is as a rule better built, is smaller, more persevering, livelier and surer of foot than the oasis-horse, but is not so easily managed as the latter. My opinion is that the Turkoman and Kirghiz horse are of the class which I have termed the steppe-horse; the former is, however, as a rule somewhat larger than the Kirghiz horse, and whereas the body of the latter is comparatively compact, the Turkoman horse has a long back, long neck, is little hairy, has very soft and fine skin, a very thin mane and a coat glistening like silk. He is decidedly to be preferred to the Kirghiz horse, his price being, indeed, 400 and 1000 sh., whereas a good horse can

Woven saddle-bags (kurdjum); they are shut by the numberless small eyes being plaited into one another. They are laid across the wooden saddle: one rides on the middle piece, and the bags hang down behind the legs. Nat. Mus. in Copenhagen. Olufsen's Collection.

be bought from the Kirghiz or inhabitants of the oases for 100 and 150 sh. or often 80 sh. or less. A race coming near to the steppe-horse is the common Afghan mountain-horse, as to size and appearance something between the Turkoman and Kirghiz horse, but still more like the former. His price is the same as that of the Kirghiz horse, he is a better riding-horse than the latter, but not so good as a beast of burden. A few specimens are seen in the oases on the plain of a much larger race of horses than those mentioned here and introduced from Persia. This is a large, noble

and fiery horse, as a rule tawny coloured and very costly. He is generally only used for riding by the higher officials and rich merchants; he is a luxury, not well adapted to caravan use.

The donkey (eshek or eshak) is everywhere in Central Asia the riding animal and beast of burden of the poor, and these being



3 Chinegobs. Made of leather. They are suspended by the horns of the saddle and are used for packing up tea-vessels. The vessels are laid inside one another with an intermediate layer of cotton or felt. (Olufsen's private collection.)

in a great majority, he is employed to a great extent. The husband who cannot procure a horse must be content with a donkey on which he, his veiled wife and their child are carried over long distances. The donkey carries such large bundles of hay and corn home from the field that often nothing but his small, grey legs

tripping along is seen of him below the burden; wood and charcoal in small wallets hang balanced across a small pack-saddle. Thousands of donkeys are seen in the towns of the oases; for they are not adapted to long journeys, not so much owing to want of endurance, but because they carry so little, cannot easily clear the fords and must be reshod an endless number of times on stony ground, as they are not able to wear very heavy shoes. It is, however, convenient to have a few donkeys in one's caravan, for instance, to carry some instrument or photographic apparatus which must be had at hand every moment, a little hunting ammunition or the wallet for provisions wanted at the next halt; this prevents such things being included in the larger baggage on horse or camelback. "To be slow and lazy like a donkey", is only appropriate to some extent; if, for instance, a donkey finds the weather too disagreeable, he makes his way under the tent-cloth and is suddenly seen in the middle of the tent; he cannot be driven away, but must be dragged off, and then he very soon returns; but the word is not appropriate for the many small, shiny grey fellows trotting along the roads of the oases with their large burdens, as if the whole thing were a game.

There are two special races of donkeys, the small light grey, as a rule only a little more than one metre high, and a larger race, of the size of a small Norwegian horse, often piebald (white and grey, white and reddish brown or white and black), sometimes also quite white. The latter colour is highly esteemed. The donkey is a very cheap animal, the small standing as a rule at 10 and 12 sh., and the large up to 30 sh. a piece. For riding a head-gear like that of the horse is employed, or only a halter, and a small riding-saddle, but the natives sit, as a rule, on a piece of rug far behind on the rump of the donkey, driving him along by pricking him incessantly on his hind quarters with an iron or wooden peg.

The Avesta people took a great interest in breeding of horses and camels but the donkey was also held in great esteem by them. The camel is mentioned in the Gathas and has been domesticated as far back in time as we can get. The same is the case with the donkey. In the Parsee mythology the three-legged donkey plays a great part. He has three feet, six eyes, nine muzzles, two ears and an enormous horn protruding from the forehead, and stands in the lake of Vorukasha (the Caspian) where his task is to keep all the waters of the earth free from uncleanliness.

The yak-ox. If one cannot advance in the mountains with any of the above mentioned animals because the steepness of the paths, the immense stone heaps of the moraines, the ice of the glaciers, deep snow, a too rough climate or clayey slopes throw too great obstacles in one's way, the yak-ox (called kutas by the Kirghiz, or grunting ox, because it grunts incessantly while moving about) is fixed upon; this animal is known everywhere in Central Asia. If I had not seen with my own eyes the endurance and surefootedness of these animals, and if I had not myself employed them under various circumstances, I would hardly believe what is said of them; these tales cannot, however, easily be exaggerated. I have seen them perform marches of 11 Danish miles with baggage weighing 200 pounds on their back through snow and ice under the most desperate conditions, 12 and 13000 feet above the level of the sea, where the air is thin, and on arriving at a grassy plateau after such an expedition they played with one another galloping and frisking about. I have seen them used both for riding and as beasts of burden down the steepest and most clayey loess slopes without losing foothold a single time; they slide down straddling on all fours; I have seen them climb the most inaccessible slopes at the foot of the glaciers and the perpetual snow 15 and 18000 feet above the sea where no other beast of burden would be able to find foothold, and even then continue such desperate marches for several consecutive days. Therefore the yak-ox is always chosen for the most difficult passages, both for riding and as beast of burden. If one wants to advance with horses through snow in difficult regions, the best plan is to make some yak-oxen tread a path for the horses. His size is about that of a common, large Danish cow, he has a long mane on neck and fore part of the body and a tail like a horse, large convex horns and, as a rule, he is black or black-brindled, a few quite white, but the latter are rare, and a white yak-ox tail waving from the top of a pole is therefore considered to be the greatest distinction at the grave of a native. Whether employed for riding or as beasts of burden their headgear is a woollen rope drawn through a hole in the nose. The riding- and pack-saddle is quite the same as that of the horse. There is only one inconvenience that, as a rule, he must have good and plentiful food, some grain from the field is preferred, and that he does not easily thrive below 7 and 8000 feet and upwards where he is wont to live. But one advantage must be mentioned, namely that the milk of the yak-cow is better than all other milk as to

richness and flavour; it is like cream. A Danish rice-porridge boiled in milk from the yak-cow as we often had it during my journeys in the mountains must decidediy be said to outdo all other cooking, and, owing to the excellent qualities of the milk, butter prepared from the latter is better than anything else produced by Asiatics. But it is a pity that this butter is made in such a primitive way.

9.

RELIGION, MOSQUES, MEDRESSES AND THEIR ECCLESIASTICS

By the oldest population of Bokhara are generally meant the Iranians, the present Tadjiks, whose purest types are seen in the Bokharan Pamir valleys. According to Chinese sources Khiva, Bokhara and Turkestan had formerly an Aryan population, and the Tartar-Mongolian race did not immigrate until a comparatively late time. But the fact that the Tartar-Mongolian people, now the rulers in Central Asia, met with Aryan tribes does not preclude the possibility that the Aryans on their arrival here met with Tartar aborigines who on the Tartar-Mongolian invasion had long ago become swallowed up by the ruling Aryans, the bearers of culture. The possibility that a non-Aryan population existed alongside of the Aryan is not excluded, but even proved in Avesta where Non-Aryans are dealt with several times. The Non-Aryan countries are fought by the Aryans by the help of Zarathustra, and this shows clearly that a war between races has taken place; here the Aryans got the upper hand, but this war is in Avesta removed to a very distant time.

The period before the Aryans became the inhabitants of Bokhara is wrapped up in darkness, and we know very little of the Aryans themselves, before Islam made its way into the country. It is possible that they had their original home here, then spread from here over the countries in the west towards Mesopotamia. We know with certainty that the old Iranian fire- and light-religion had its main seats here, and that Zoroaster, Zarathustra, the beaming, had his first adherents on the banks of the river Serafshan after being ejected from his presumable home, Atrapatenae (the present Asserbaidjan or Adar-baigan, guarding the fire).

The Islamitic religion is now prevalent in all these places; at the beginning of the eighth century it got the upper hand of the

Parsee religion (Parsee from Fars = Persia) or the religion of the Gebers (in Persia they are called Geber). The Parsee or Avesta religion (often Zend Avesta) had in Central Asia its Mecca, its centre, in the flourishing Balkh or Balikh (Old Turkish word meaning principal town) in Afghan Turkestan. It is now a ruined place, but beside it has arisen the town of Mazar-i-sherif (The Tombs of The Holy).

In Bokhara the Parsee religion was closely pressed by two other religions, namely Buddhism and Christianity. In the 1st century Buddhism gained several adherents here, and even for a long time after the invasion of Islam Buddhistic idols are said to have been sold in the bazars of Bokhara, and on their arrival the Arabs found rich temples with idols in gold and silver and temple doors carved with mythical figures. Before Islam the Christian doctrine had gained access in Mid Asia, thus we know that in the year of 420 there was a Christian Archbishop in Merv, 503—520 a Bishop in Samarkand, in the circuit of which town large Christian congregations are said to have existed which did not disappear totally until the end of the 13th century. The Arabs found Christians living here under peaceable conditions, but we have no particulars about their further fate; we only know that the doctrine was extirpated here as elsewhere in Mid and Central Asia.

Before the arrival of the Arabs and the conversion of the Aryans to Islam, the latter had already lost the government of Bokhara, as Turkish (heathen, Buddhistic or Shamanitic) nomads had forced their way from the north into the countries on the Oxus and Jaxartes. They destroyed Balkh in the second century, and in the 6th and 7th centuries they had immigrated in so great numbers into Bokhara and Turkestan as to completely deprive the Aryans of their influence. The Arabs who marched into Bokhara in the year 666 under Rebi-Ibn-ul-Harith, spreading the doctrine of Mohammed with fire and sword, found the country under Turkish rule. There were sharp struggles between Islam and the Parsee religion. People of rank especially adhered to their old religion practising its rites at night, but by day obliged to do homage to Islam. It was only under Kuteïbe bin Muslim, vassal of the Calif of Bagdad and grandson of the legendary queen Khatun of Bokhara who is surrounded by a certain nimbus, that Islam finally conquered the Parsee religion; Kuteïbe, who about 711 made his renowned expedition into the Chinese realm as far as Khotan and Turfan and who had assumed his name to flatter the Arabs, was

among the mightiest rulers of Islam. At the beginning of the eighth century the Koran (from kara = to read) was translated in Bokhara into Persian so that the Tadjiks were able to read it.

The old religion of Zarathustra was, however, too firmly fixed in the hearts of the population to be eradicated at once, its importance was, indeed, effaced by degrees, but many of its customs have held their own, intermixed with Islam even up to our own time. There is no doubt that on the introduction of Islam many of the Avesta people fled from the large, open and exposed oases in the lowland to the mountain valleys in East Bokhara and Pamir where the Parsee religion has been prevalent longer than anywhere else; in Vakhan and Garan it did not disappear and become effaced until the 19th century. (See Olufsen: Vakhan and Garan).

Among Parsee customs still in practise in Bokhara may be mentioned the celebrating of the spring festival and the new year's festival (Naurus?), and the crowning of the isolated pillars on which the flat roof rests with wreaths of ears of corn; the latter custom still prevails in the Pamir valleys. Further that on a certain day in the year, Tshârshambéh-Sunni fires are lighted which people leap over, whilst pots are broken at the same time; and all this to drive away the evil spirits and to be purified from sin and illness. The latter custom, however, only continues in remote regions, being energetically counteracted by the ecclesiastics, but when a Bokhara man is asked whether he knows of it, be smilingly says: Oh! no! in such a way that the custom seems to be maintained secretly. The Mountain Tadjiks unwillingly blow out a candle, but extinguish it with earth in order not to pollute the holy flame with their breath; the sick are led round the fire, or a lighted candle is held up before their face. On a child being born a candle burns for 40 days at its cradle to keep off evil spirits. Candles are also lighted at holy tombs etc., as it will appear from the following, and finally Bokhara is still haunted by practically all the innumerable spirits and demons of the Parsee religion. There are in Bokhara 5 species of spirits which have, so to speak, been naturalized, namely Shaitan (Satan), Almasdeh (Alvastéh or Albastéh), Djin (Adjin or Adjinéh or Adjináh) and Div or Dev.

Almasdéh is a corruption of Ormusd or Ormasd, but the good Ormasd in the religion of Zoroaster, has in the course of time become an evil spirit tormenting man in many ways. He generally takes the form of an old woman with streaming hair, living in pla-

ces where there are flowers, in gardens and similar localities; in the Pamir valleys her resorts are the rivers and elsewhere the canals. She assails men at night trying to contract their throats and so produces snoring and nightmare, and she is, indeed, accused of many elfish tricks; also of driving people quite mad. Some imagine Almasdéh in the form of an old goblin with long hair living in the rivers; at night he amuses himself by spoiling the horses of the natives and by pulling hairs out of their manes and tails.

Djin (spirit) (Adjin, Adjinéh or Adjináh) haunts all places of a mystical appearance, such as large rocks, strange looking mountain peaks, dark forests, dense reed-copses, ravines, old palaces and ruins. Where such conditions are present, the air and earth is full of these spirits who, in spite of behaving in a rather good-natured manner like a sort of hobgoblins who disturb man by teasing him, are nevertheless so feared by Bokhara people that they do not like to name the word Djin or Adjin; for they are easily attracted, and it is very difficult to drive them off again. On moving they often move together with the furniture, like the Danish hobgoblin in the barrel, and the nomad often moves his tent from one place to the other without succeeding in getting rid of such a Djin.

Dev or Div (the Deva of the Avesta) are manly beings minding their own affairs and generally caring little about man. They are a sort of goblins or giants living in the caverns of the rocks, high snow-clad mountains or in the old town-walls where they carry on a fierce struggle against another sort of goblins called Peri.

In spite of these and several other remnants of the Avesta faith, which will be dealt with later on, this religion is dead for ever in Bokhara. Here where it was so firmly rooted, Islam has by degrees made so fanatical adherents, that the town of Bokhara passes, not unjustly, for the centre of fanaticism in Mid Asia.

The Parsee religion had its different sects, and even in the infancy of Islam sects also sprang up within this religion. At the period from 714—874 arose the Shiah sect claiming a Calif directly descended from Ali. To this sect belong the present Persians, formerly also the Afghans who brought this form of Islam to regions in East Bokhara, Shugnan and Roshan where it has, however, again disappeared. The so-called veiled Prophet "Mokanna" formed the Mokanna sect in Kitab, and even in Bokhara arose such sects or religions or antireligious societies, perilous to Islam because derising both the Prophet, the prayer and the fast. These sects were energetically fought against by the Califs and their vassals, the Bokharan

princes; and the orthodox Sunna, maintaining the tradition, got the upper hand.

Sunnism, the more tolerant form of Islam, is now the established religion of Bokhara, and no one dares, at any rate publicly, profess any other Islamitic doctrine. Several of the numerous descendants of the captured Persian slaves in Bokhara are, indeed, said to be Shiites in their hearts, and to profess this doctrine secretly, so that even the funeral rites of the Shiah sect, differing from Sunna, are secretly performed in Bokhara, but looked upon as a religion it has no importance.

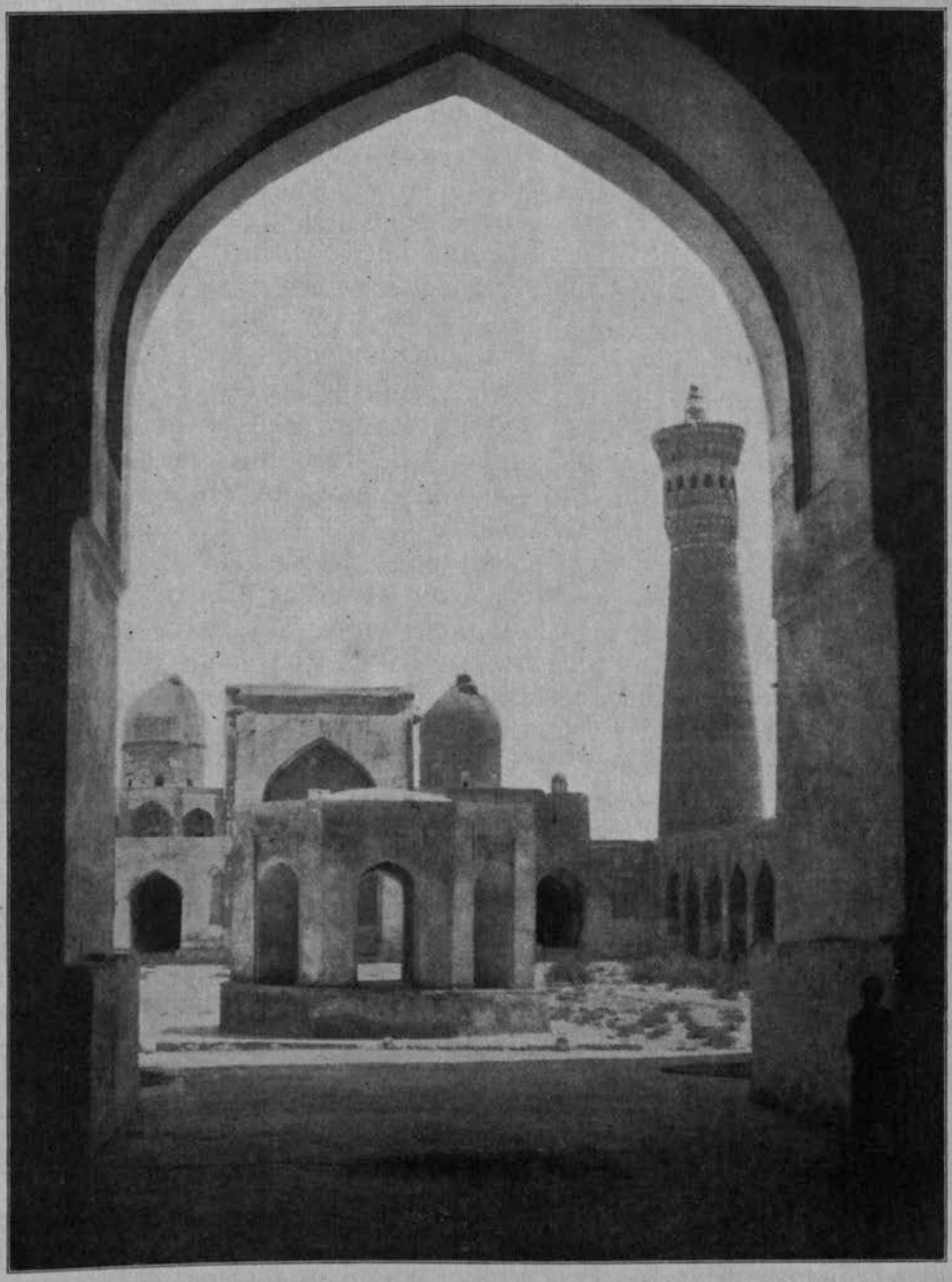
Under the Sunnite princes culture flourished in Bokhara in the 9th and 10th centuries. Thus the Samanide Ismail (848—907) embellished Bokhara with many fine buildings, both mosques, medresses and palaces, and the town was celebrated for its learning and culture, but this learning and intellectual refinement must be said to be an intense cultivation of the Sunnitic theology with some admixture of the sciences known from Arabia: astronomy, astrology, mathematics and medical art. This culture was destroyed in the 13th century by Jenghis Khan and his Mongols who laid waste the splendid edifices of Bokhara, Samarkand and Khorassan and brought irreparable calamities upon these towns as well as upon Merv. Jenghis Khan is an Old Turkish (Uiguric) word meaning the very mighty. The home of the Uigurs is Tian-shan; at the time of the Mongols they had a considerable culture and were the secretaries of the Mongolian rulers. Jenghis Khan especially visited his bloodthirstiness upon the Iranian agriculturists, who under Islam, as formerly, were cultivated people in spite of their suppression. Under him the Turks became very mighty and the Mongols even employed the Turkish language.

This Turkish sway was further strengthened under Timur (Amir Temir = the Iron Emir) 1363—1405, being himself a Turk, and under him and his successors, the Timurides, who reigned a century in Transoxania and the surrounding countries civilization attained its culmination in Mid Asia under the banner of Islam. Never before or later did the Islamitic nations reach such culture as under the Omejades in Hispania, the Abbasides in Arabistan and the Timurides in Mid Asia. Amir Temir's splendid, majolica-clad mausolees and mosques in Samarkand, whose architectural style and decoration have been the models of the mosques, medresses and sepulchral chambers built right up to our own time, are among the finest monuments in Central Asia from a remote age. Timur had

his edifices erected by Iranian artisans whom he called hither from Khorassan, and the glazed tiles with which the buildings were decorated were made after patterns from Kashan where the best earthenware was produced which was therefore called kashi. Timur called artisans and artists from everywhere, also from China into his country or, to put it more exactly, often captured them, and at his time 40 different languages are said to have been spoken at Samarkand and Bokhara, but the main style of his buildings remained Persian, nevertheless, in spite of the Chinese influence which can be traced here and there.

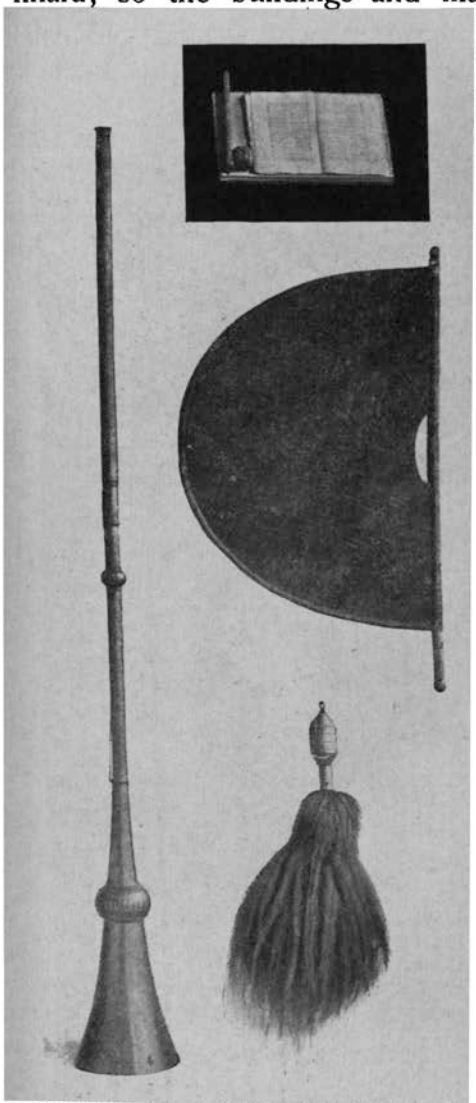
After the Timurides culture steadily diminishes both intellectually and materially. The incessant wars waged between Khiva, Merv, Bokhara, the various Khans and Emirs in Turkestan and the Persian realm caused the plundering and destruction of the larger fortified towns and their old and splendid edifices for which reason few monuments are left from this remote age. This matter ought, however, to be thoroughly examined; an exact archeological-historical exploration of Bokhara and its circuit as far as Karakul, of Khiva and the ruins which are half or quite buried in the desert would give highly valuable information of the past times of these countries. Excavations and systematic investigations of the territory from Karakul, the old Beikund, to the Bokhara oasis will be sure to reveal both the infancy of Islam in these parts and some of the Pre-Islamitic period. An examination of the many old sepulchral chambers, holy places etc. in Bokhara itself will no doubt contribute considerably to the knowledge of the history of Bokhara, as the holy places, now annexed by Islam, were also holy under the former religions; this can be inferred from analogy with what is the case in all countries where Islam has forced its way. Such researches will show that the present old saints' tombs are much older than presumed now, and that the foundation of the town of Bokhara must be dated much farther back than is the common belief now, undoubtedly at least 2000 years, but we shall later return to this problem.

From our present archeological-historical knowledge the Bokharan monuments cannot be inferred to go farther back than the 10th century and most of the mosques, medresses and palaces do not even originate from a more remote age than the end of the 15th century up to our own time. Among royal builders must in the first rank be named the Samanide Ismail, Timur and Abdullah-Khan.



The court-yard of Mashit-i-Kalân in the town of Bokhara. The house in the middle of the court-yard is an adane, behind is seen a pishtak and to the right the Tower of the Dead.

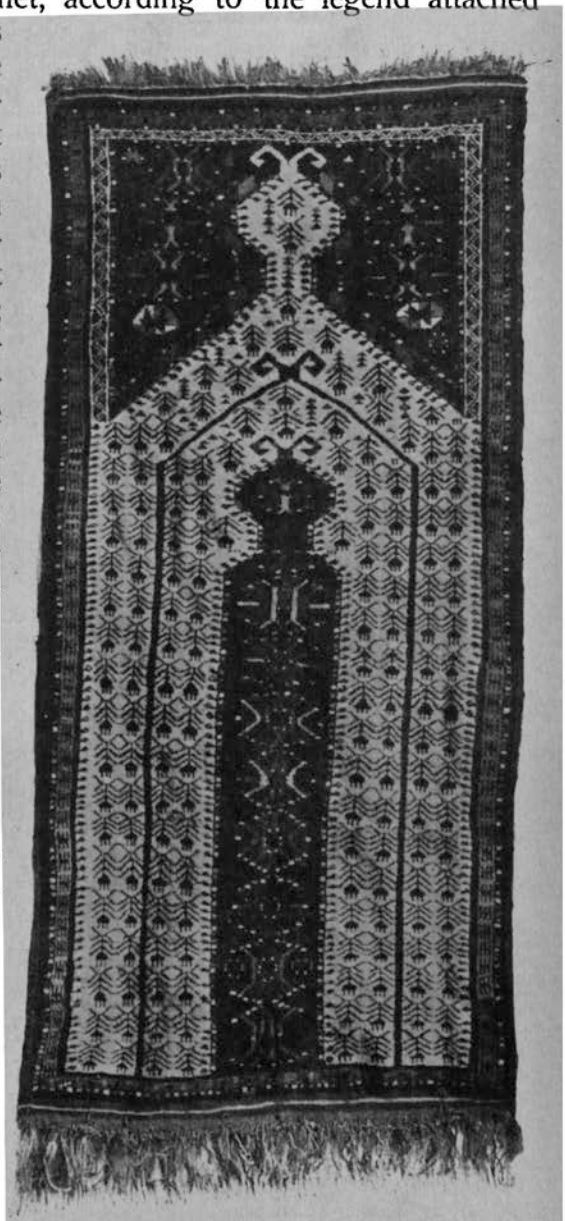
As religion bears upon all the phenomena of daily life in Bokhara, so the buildings and main resorts of Islam impart to each town its special character which no traveller can help noticing at first sight. The larger towns corresponding with our provincial towns must, to obtain the name of Shahr or Shahar (town), be encircled by a fortified wall with bastions, gates and barbacans; they are inhabited by a Beg (master) governing the town and its nearest circuit from his palace which is, as a rule, fortified as a redoubt, but first and foremost these towns must have a large mosque able to contain all the men on Fridays. Otherwise the settlement, whether large or small, bears the name of kishlak. Only the mosques and medresses of Sunnite Islam with their cupolae, high porches and minarets rise above the uniform, flat-roofed houses which are built close together and owing to their material, the yellowish grey loess, are merged to such an extent into the ground on which they stand that one is often uncertain whether it is clay-walls or rows of houses which are before one's eyes.



Trombone, karnai, of brass to be used at religious festivals. Yak-ox tails in a case of iron-plate are placed on a staff above the tombs of prophets. Leathern fan, employed in the mosques for fanning the priest during the prayer. At the top an open Koran, such as is seen lying in the mosques on its minbar (desk). Beside the Koran pen-case and ink-stand in a case of brass; the latter are put in the belt as a sign of the dignity of a Kasi. Nat. Mus. in Copenhagen. Olufsen's Collection.

Among monumental buildings in Bokhara we shall here deal with the mosques and medresses (mashit and madrassa as they are termed in Bokhara). It is a misunderstanding to believe that the Mussulmans in Bokhara have their divine service in large, dark, vaulted mosques with many coloured columns and numerous lamps. There are, indeed, in nearly all towns a sort of small

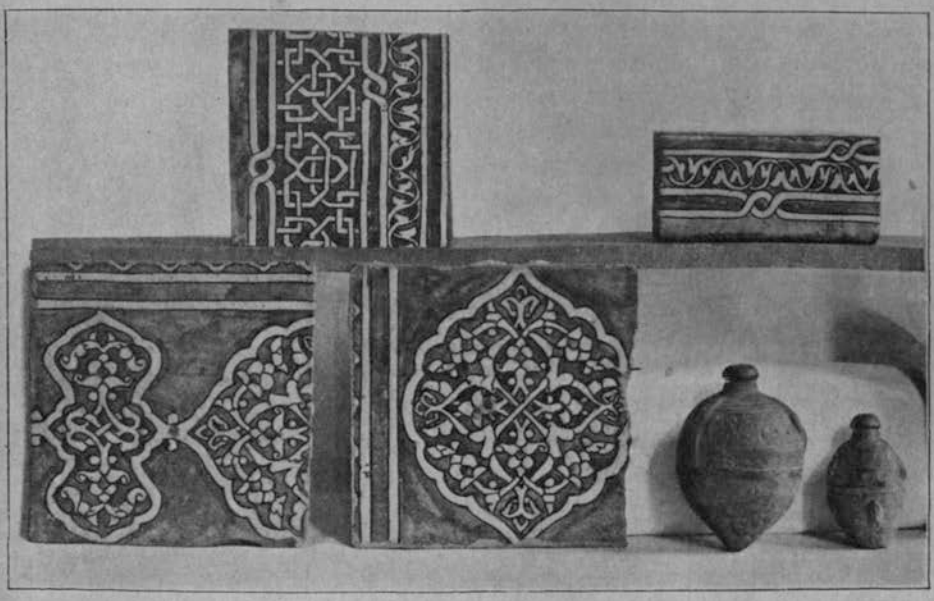
mosques, built, as a rule, in a heavy style with a substructural cube and crowned by a cupola, but they are in the minority, and hold but few people. They are generally a kind of mausolees of some saint or prophet, according to the legend attached to the place. They are always open to Mussulmans, and the Europeans are, as a rule, allowed to enter, and they must be regarded as a sort of houses of prayer where the natives can perform their prayers on feeling inclined to do so, without being disturbed from without; by the way, the prayer is considered as effective when performed in the field or in the bazar as in the mosque. From the vaults of the ceiling a simple iron lamp (chirâk) hangs down or sometimes a sort of chandelier of iron or brass, in which there is a greasy wick or thin tallow-candle; on a desk (minbar) is an open Koran, often very large. The floor is covered with mats of durra-straw, and a pointed niche (mehrab) in the wall facing Mecca (Kiblâh) is reserved as a place of prayer for the priest residing here; the visitors kneel on the mats either on the cloth which they use to wind about their waist to hold the caftan together, or they put off a caftan to kneel upon or finally they carry with them special prayer-carpets with passages from the Koran woven into them or sewed on them. That the casually arriving priest or



Woven Bokharan prayer-carpet.
The design represents a pishtak of a mosque.
Nat. Mus. in Copenhagen. Olufsen's Collection.

civil person of rank may perform his prayer in summer without being disturbed by the heat or the many insects there is always a large crescent-shaped leathern fan which a servant waves across his head during his prayer.

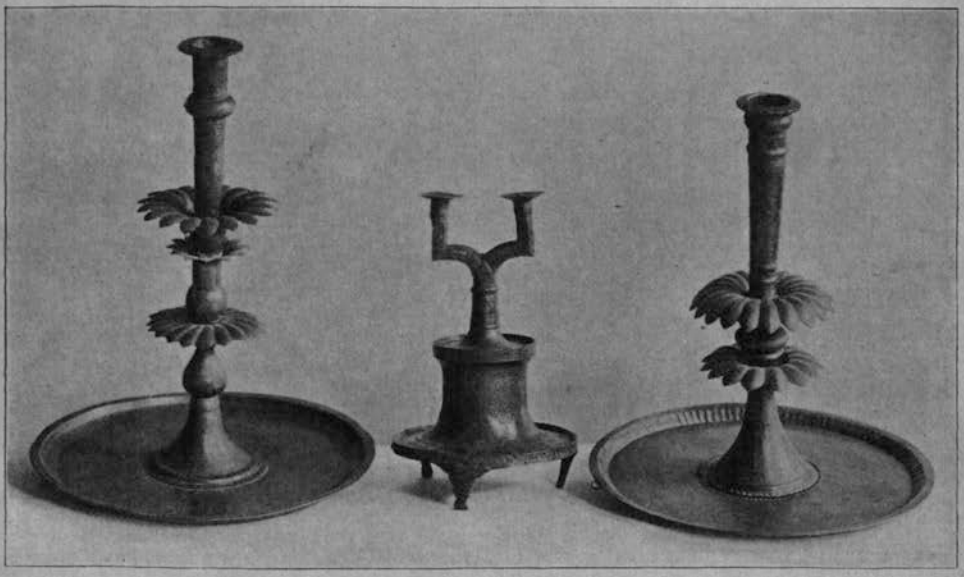
In some mosques there are large brass candlesticks where candles are lighted during nocturnal prayers, and some brass trombones, about 2 metres long, which are played upon on the great religious festivals. From the main room of the mosques narrow low doors



Glazed tiles (kashi) for covering mosques and medresses, partly Persian, partly Saracen style. Below to the right two stone-jugs with pointed bottom. It was formerly presumed that they were placed in the tombs, and that the funeral procession wept tears into them, for which reason they were called weeping-jugs. The pointed bottom is, however, only due to their being better able to have a firm stand in the sand. — Possibly, they were formerly used as common travelling-bottles, but any clear understanding of their use has not yet been arrived at. They are not in use now. Nat. Mus. in Copenhagen. Olufsen's Collection.

often lead into small vaulted, dark rooms where some saint is buried under a tombstone, generally in the form of a sarcophagus (kabr or sarkhanáh) and either built of bricks or clay and coated with plaster, glazed tiles or carved wooden boards, and if it is a specially distinguished tomb, the sarcophagus is often covered with carpets wrought with gold or only with a white linen cloth. The walls of the mosque are decorated with painted stucco where the polygon (the triangle, square, pentagon or hexagon) filled up with conven-

tional leaves and flowers is the main feature. This is the so-called Saracen style. The border of the ceiling and the upper part of the plastered niches of the walls is ornamented with plaster stalactites on which are painted stars in gold or blue, and the doors which are generally made of the hard apricot wood are carved in the same style as the stucco of the walls. Some of these mosques or half mosques and mausolees, especially those from a more remote age are covered or have been so both outside and inside with glazed



Bokharan mosque candlesticks, the central one of copper, the others of brass. The style is from Kashmir. Nat. Mus. in Copenhagen. Olufsen's Collection.

tiles, either mosaic work formed of small tiles, introduced from the west, from Damascus and Persia, or covered with larger majolica plates, about 10 square centimetres, common also in India, the figures of which, conventional flowers and geometrical figures or passages from the Koran, form a continuous whole.

The cupola of the mosque is crowned by a glazed clay-top, the so-called kobbá (Arabic: copula) which in Bokhara marks out the edifice as holy; the holiness of the place is also often indicated by yak-ox tails, colours, banners and horns of animals that are hung up; this will be dealt with later on under the description of the tombs. It ought to be added that the cupola is generally occupied

by one or several storks' nests the refuse of which soils the glazed tiles in a very unpleasant way.

In smaller towns and villages both in the plain and the mountains where there are no special sanctuaries, the mosques often consist of a small, flat-roofed house fronted by a veranda whose woodwork and columns are carved and painted, but often devoid of any ornament, and in small settlements the whole mosque is nothing but a high clay-wall against which leans a veranda (aivân) supported on unhewn trunks of trees. On the platform under the veranda people come together for the prayer which on Fridays is presided over by the mullah of the place.

But the proper Sunnite divine service on Fridays, the holiday of the Mussulmans because Adam was created and died on a Friday, and the universal resurrection of all dead will take place on that day, is not held in these few small closed mosques, but in the large open court-yards of mosques so typical of Bokhara; their arrangement will now be mentioned.

The daily hours of prayer (nâmas), originally but three, now five, namely at sunset, on the setting in of night, at break of day, at midnight and in the middle of the afternon, are announced by the cry of the mueddin: "Âblâh-Akbar etc." from towers, minarets (minar) and tops of the mosques.

Blind people are often selected as mueddins as from their elevated position they could othervise look down into the court-yards where the women are. In most of the larger towns the native dares not desist from keeping the hours of prayer; the latter can be performed in mosques, sepulchral chambers or where he likes; during the prayer at noon, however, every merchant at Old Bokhara goes to the mosques, hastily leaving his shop where all, even the heaps of money of the bankers lie unprotected facing the open street. Theft in the shops during the absence of the proprietor to pray practically never takes place, as it can be punished capitally. At this daily prayer the priests are not seen; they pray in their special rooms or in the sepulchral chambers of distinguished saints or prophets.

In the country, in mountain villages and by the nomads these fixed hours of prayer are nowhere maintained; only a few are here seen obeying the precepts of religion with touching punctuality; they observe the height of the sun and by means of its direction they comparatively soon learn how to find out Kiblâh, the direction of Mecca, towards which they turn their faces during prayer.

Veranda of a mosque at Baha-Eddin.

The open mosques (mashit), so typical of Bokhara, will be mentioned together with the medresses (madrassa). The latter are not proper places of worship, but the highest educational establishments of Islam where the native enters to obtain higher erudition, as a rule not before the age of 13 after having learned to read in the Koran in the small common school, mektab. Mosques and medresses are built in quite the same style, and it would be impossible at first sight to distinguish between them, if the clothes, always hanging to dry in the loggie of the medresses, did not give some information. In the medresses divine service is often held on greater festivals when there is not room enough in the mosques. If the mosques were not often inhabited by the ecclesiastics who are appointed there, and with them their private pupils often live as a sort of boarders, the difference between a mosque and a medresse would be that the former were uninhabited, whereas the latter contains about 150 Islamitic students in its numerous rooms; they either study the Sunnite theology to become ecclesiastics or prepare themselves for some practical end.

The entrance to the mosque or the medresse is, as a rule, through a high porched gate decorated with a high rectangular porch in whose pointed niches there are often many loggie, one story above the other. Through the archway one enters the court-yard of the mosque or medresse either directly, (in this case the way through the archway follows a zigzag line to prevent people from looking into the yard from the street) or one enters a sort of fore-court, sometimes raised like a kind of platform above the surrounding ground. In the latter case the inner court is entered by a tunnel-like path, cut into the platform. The fore-court is generally encircled by a clay-wall, about 3 or more metres high and affording a great contrast to the entrance porch that is decorated with encrusted tiles in all colours. Or from the fore-court one faces the foremost wing of the mosque, if the latter has four; this wing is often but a wall.

Now and then there are isolated minarets in this fore-court; if they are built elsewhere, they have as a rule no connection with the other buildings. There are, however, few high minarets in Bokhara. From the fore-court one traverses a porch of the same shape and decoration as the former, and then two narrower, zigzag passages lead into the inner court-yard. The area of the latter is, as a rule, not greater than 60—100 square metres and paved here and there with square sandstone flags or bricks. The court-yard is enclosed by four wings (a wing is, however, now and then replaced

by a high wall) built together to form a square and on the middle of the hindmost wing, where there are vaulted, carpeted rooms, and which is often crowned by cupolae with numerous storks' nests, there is opposite to the entrance porch a porchlike structure with a huge pointed niche, called pishtak; the whole wing with its vaulted rooms and cupolae bears the name of yashmashit. This pishtak dominates the whole complex of buildings. It looks towards Mecca, and here the ecclesiastic who presides over the divine service takes his seat, his back turned upon the congregation. All buildings have flat roofs, where the ecclesiastics are allowed to walk, and, to prevent them from looking down to the women in the surrounding yards, the external sides of the roofs are furnished with a wall. The walls of these buildings are always very thick, partly to procure stability, partly to procure coolness. They are generally built of burnt tiles, sometimes of sun-dried bricks.

Beside the pishtak the side-wings are sometimes decorated with similar porches. The access to the yashmashit is, as a rule, barred by a wooden railing with a small gate, and from the inner rooms stairs for the ecclesiastics lead up to the roof. On each of the four corners of the mosque is a small thimble shaped tower with pointed loop-holes on all sides. They were originally set apart for the mueddin calling to prayer from here over the city, but many are only a kind of ornament or a symbol and very small, in which case the mueddin takes his seat on the flat roof. On taking a view from here over a larger town, the flat clay-mass of the city looks as if it were covered all over with spherical segments, because the vaults rise freely above the flat roofs. The cupola is often nothing but polished clay, but the older and more beautiful are everywhere covered with majolica in bluish green.

On the front of all the wings there is one pointed niche or sham bow beside the other; to the hasty observer they seem to be colonnades, and several cursory accounts of travels have made this mistake. Sometimes there are two stories of niches one above the other, the upper one forms a row of loggie. In each niche or loggia is a door or a small lattice window in plaster covered with oiled paper or both, and these doors lead to the rooms of the ecclesiastics or of the mullah-aspirants in the medresses. The floor of the yashmashit and of the lower niches is raised over the court-yard, and the external surfaces of the walls facing the fore-court and the inner one in the mosque or medresse has rows of sham pointed arches. These niches and loggie are rather pleasant and cool re-

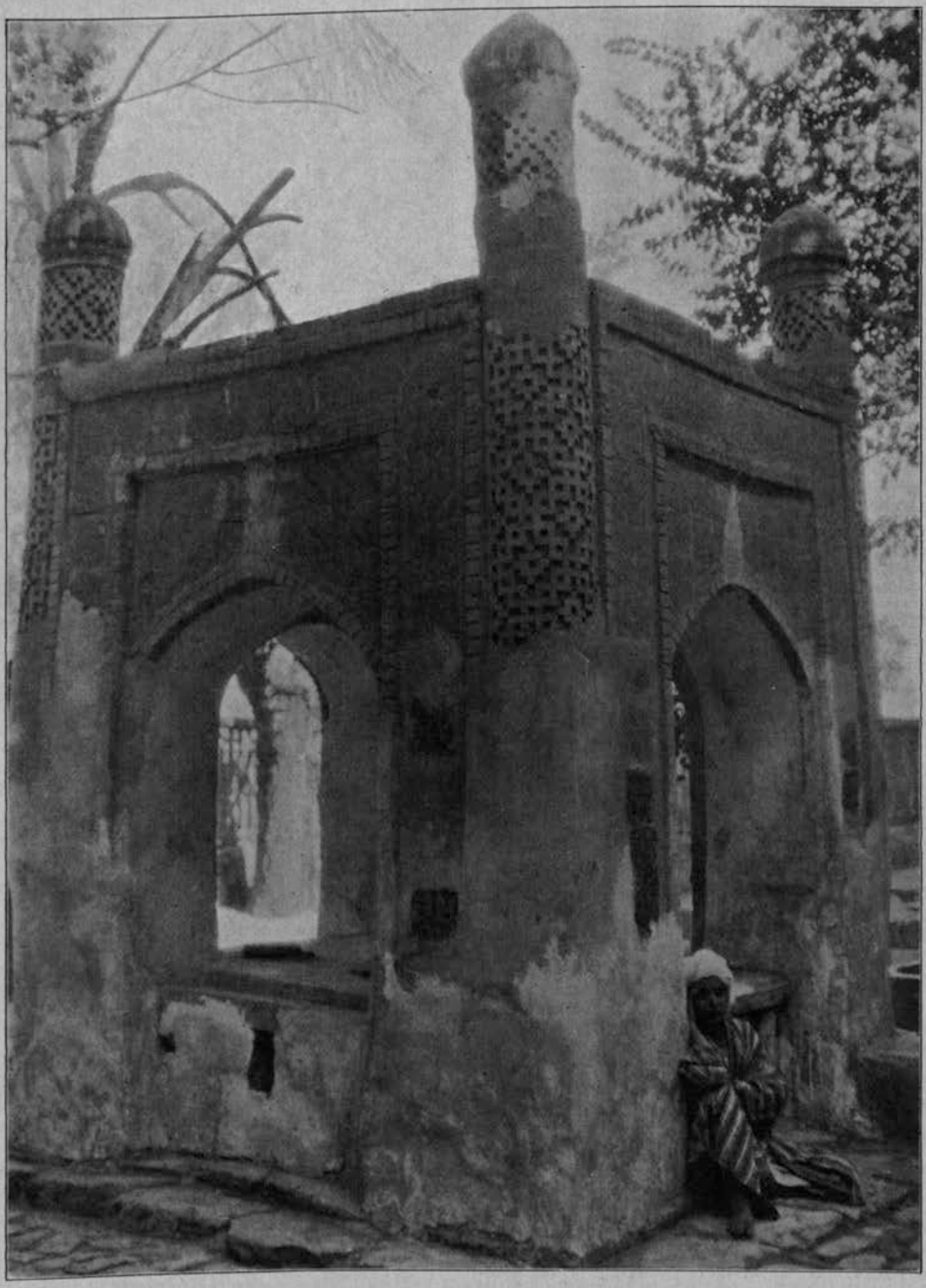
sorts in summer, and here the ecclesiastics and their pupils often sit down on a piece of rug while studying the typical Bokharan book which is always bound in a green binding, or they write on the obligatory scrap of paper which has the same form as the prescription of a physician; they hold it with their left hand while writing with their right.

In the court-yard of the larger mosques or medresses there are invariably two things, namely an adane and a well (kuduk) and sometimes a water-butt consisting of a hollowed block of granite of the same form as a baptismal font or instead of the latter a small pond framed with wood like a small duck-pond. Here or in the water-butt the natives wash themselves before the divine service.

The adane resembles a mueddin tower moved to the ground. As a rule it is only about 3 metres high with an area of 1 and 2 metres. It has pointed, open entrances on all sides, and in the middle of the adane there are always some round black stones. The whole is meant to remind one of the holy house in Mecca with the well-known black stone which was brought down to earth by the angel Gabriel and given to Abraham as a special sign of the grace of God. This stone was said to be originally clean and transparent, but on touching an impure woman it became black and opaque.

Some mosques only consist of one wing, a flat-roofed house with a small pishtak and a veranda in front whose pent-roof rests on carved and painted wooden pillars with capitals ornamented with carved stalactites. Rather curiously the capitals end in a point joining the rafters of the roof which are also often painted and carved. Three or two of the wings are sometimes replaced by clay-walls enclosing a small grove of high poplars, willows or platanes beneath which the congregation kneels during the prayer. If the mosque is a specially holy place, old banners, principally green and red, are often placed in the yashmashit, old pieces of armour and spears or ox-tails hung up on top of poles. That the place is holy generally means the same as its being old, for then some legend or other is always more easily attached to it; many of the legends are naive and easily understood, others are less easy of comprehension.

As in many other Islamitic regions the mosques are only considered holy during the divine service, and even then a European can enter without being molested, provided that he is an intimate friend of the Bokharan Government. On proceeding to Bokhara



Holy fountain at Baha-Eddin.

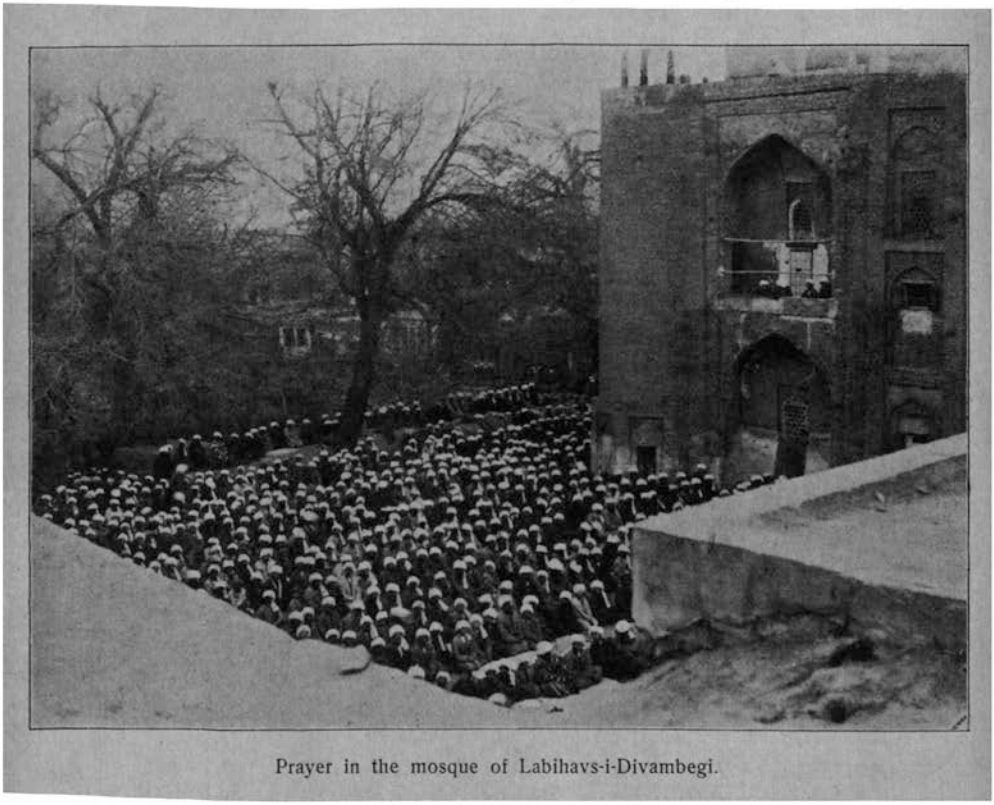
from Russian Turkestan where all mosques are now entered during the service without further ceremony, one soon becomes aware that one is in an independent Mahomedan country where fanaticism is sought maintained. Besides the storks large flocks of pigeons which are feeded by the inhabitants live in most of the mosques. Neither of these birds is considered to be sacred, properly speaking, but nevertheless it is thought sinful to kill them, and a Bokhara man who did so, would no doubt fare badly, as even the killing of a bird on a Mahomedan Sabbath may cost a penalty, and with the dead bird fastened to his breast the trespasser is led about the streets in mockery.

In the older mosques and medresses cupolae, towers, porches and niches are often decorated with majolica, both externally and internally, in yellow, white, green, blue or bluish green which looks exceedingly well in the brilliant sunshine of these regions. In the newer buildings kashi is employed more sparingly. Often only the niches are framed by majolica and a belt of encrusted tiles is placed round towers and minarets. In the older buildings the glazed fronts are either small tiles, about one square inch, set into the walls as mosaic (the style of Damascus, Bokharan Demisk) or they are joined together of larger planes of tiles, about one sixth part of a metre square, whose separate figures, which are raised or flat, or raised white Persian letters on blue ground form one continuous whole on the walls. In the older style the above mentioned polygon is seen everywhere, or passages from the Koran written in the decorative Arab letters wind round towers and niches. In the younger style white circles entwined most artisticly, as in the old Venetian style, or leaves and flowers formed of circular arches are principal ornamental figures. In few words, the decoration consists of geometrical figures and conventionally composed leaves and flowers. Representations of living beings, not allowed in Islam, are carefully avoided in fanatic Bokhara. It is well known that this rule is not upheld so strictly in other countries, principally if the living beings are pictured in such a way that it is easily seen that the artist has sought to make the spectator afraid of those represented.

Now, practically but two colours are employed in the majolica, namely white on blue ground, and the workmanship is bad compared to that of the times of the Timurides and Abdullah-Khan when also beautiful tiles pressed in patterns without glazing were produced.

Divine Service. One or two Imâms are appointed at the larger mosques. If there are two, the upper one is Imâm Djuma. He presides at the divine service on Fridays and greater festivals, leading the prayers of the congregation, for no proper sermon is preached. The other Imâm recites the daily prayer to those coming up to the mosque to pray. At the smaller mosques there is but one Imâm.

When the divine service on Fridays or on greater festivals is



Prayer in the mosque of Labihavs-i-Divambegi.

about to begin, the cry of the mueddin is hard from the roofs of mosques and medresses and from the minarets, and so far from making any ridiculous impression this cry as the whole Bokharan service is very solemn. The apparent devotion and ardour with which the Arab sentences: "Âblâh Akbar, Azhadu anlâh, ilâhâh ilâblâh, azhadu ana mohammadar rasul ablâ, haja alash salâ, haja alâ, Âblâh Akbar, Âblâh Akbar, lâ ilâhâh, ilâblâh" (God is great, I bear witness to there being no god beside Allah, I bear witness to Mohammed being the Prophet of God. Come to pray, come

to pray, God is great, there is no god beside Allah) are cried out, cannot fail to impress the European.

On these cries sounding a little before 1 o'clock on Fridays, the men put on their best caftan, for women are not allowed to appear in the mosques of Bokhara, and hurry off to the mosques. Woe to him who trades at Old Bokhara on Fridays during the hour of prayer! At the entrance of the mosque they pass their hand across their beard and bow profoundly and then they walk up to the water-basin and wash their hands and feet and, forming rows, they place themselves on their prayer-carpet or the caftan which they have put off. The Imâm takes his stand in the pishtak, his back turned upon the congregation, reading from the Koran or enunciating the many prayers, which are often very long. On the word Âblâh being pronounced all the kneeling rise and at certain fixed passages in the prayer, cried out loudly by the Imâm, they take up a new position. At the beginning they hold their open hands on both sides of their face, and touch their ears with their thumbs to be able to hear better, if God or the Prophet should want to speak to them, then they let their arms hang down before their stomach while selecting the point on the ground which the forehead is to touch when they throw themselves down, and it is strictly forbidden to turn the head aside, the eyes must be continually fixed on this spot which Satan, always lurking, tries to prevent; then head and body are bent forward, the hands resting on the knees, and the worshipper kneels down, slowly placing his hands at a short distance from his knees on the ground and touching the latter with nose and forehead between his hands; then head and body is raised, still kneeling he sinks back on his heels, and the ground is again touched. This ceremony which looks rather comical, almost like gymnastic exercises, is continued until the Imâm has finished, and then everybody takes his carpet and slippers and disappears. The strings of beads or rosaries used in other Islamitic countries are not seen in Bokhara, but are in use in Khiva; they have 99 beads with a mark for each 33, according to which the perfection of God is praised 33 times, his praise is pronounced 33 times and his greatness 33 times.

On ordinary Fridays the religious ceremonies are now over, but on the greater festivals as for instance Kurbân Nâmas, celebrated in memory of the sacrifice of Isac by Abraham, greater eating-parties always take place; the veiled women with their children and servants come together in multitudes on the open places,

maidans, bringing with them pillau, fried meat, fruit etc. to the men who return from the mosques. Rich people distribute gifts in the form of slaughtered cattle and other provisions to the poor appearing on the maidan, where the chattering of the women makes such a noise as to almost drown the cries of the mueddin and the Imâm.

During the Ramasan falling in February or March at the time when the Prophet had his first revelation, the divine service mostly consists in the whole Koran being read in the mosque. The mullah whose duty it is, is called Mak-sure-khan and receives a small fee for his task. During the Ramasan there is a fast for one month as in other Mahomedan countries, and it is maintained very strictly in the towns of Bokhara, but not so with the nomads and Mountain Tadjiks who in many places maintain neither one ceremony nor the other. Eating or drinking is forbidden during the festival from break of day to sunset, they must not smell flowers, not look at women, not even swallow their spit, but as soon as the sun sets, everybody has his revenge, and the Ramasan is succeeded by the Bairam when everybody tries to enjoy life in all possible ways. The rich invite one another to pillau, soup, boiled and fried meat, flour-puddings, fruit, sweetmeats and tea, the so-called ziyafat (feast), taken by the men in the court-yards on the clay-platforms or in the men's room, whereas the poor invite one another to feast on newly baked bread and tea, the so-called Non-Ziyafat (bread-feast).

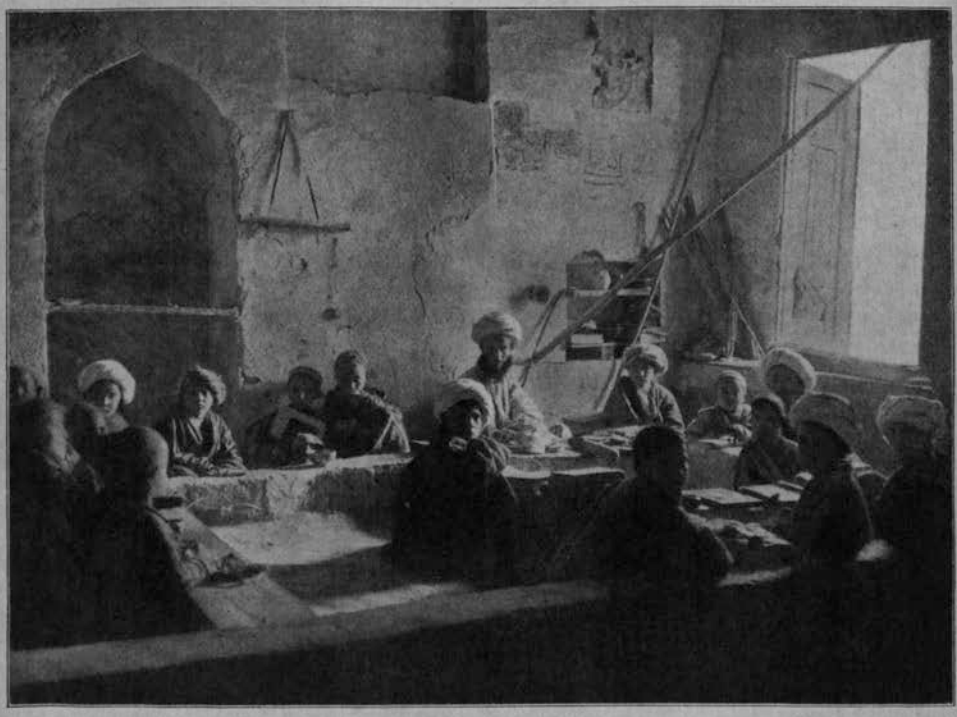
Medresses. Besides being officials at the mosques, the Imâms are also superintendents of the medresses, the universities of Bokhara, where the highest learning is attained. As noticed above the latter have the same appearance as the open mosques, and in all the wings live the students, the murids, in small prisonlike rooms, huyrus. These huyrus are in the upper story, but the lecture-rooms on the ground floor. Most of the medresses are established by Emirs, high officials and rich merchants and are maintained by legacies, but the state also pays a considerable annual sum to mosques, medresses and ecclesiastics, 1/4 of the annual income and even the customs, that are rather arbitrary, being spent upon them. Having gone through the small mullah school, mektab, the number of which is great in Bokhara, the native, generally at the age of 13, enters the medresse where he often studies for 7 and 8 years, and even longer. Older people are also allowed to enter and they may be married, but cannot take their wives with them,

and many remain here in their huyrus till they are old men. The principal subject taught is theology, which is only strictly necessary to those who want to prepare themselves for the clerical orders, further history, arithmetic, legal knowledge, writing, Turkish, Persian and Arabic, algebra, geometry, astronomy and the works of old Iranian poets. The pupil is qartered here at a fixed sum, a cell generally costs 16—30 Tilla, and then the person concerned may lay a certain claim to subsistence from the state. The students are divided into Pest Kadam who study from Sarf to Taïzib and receive 3 Tilla a year, Miane who study from Taïzib to Mullah-jalah and receive $^3/_2$ Tilla a year and Pish Kadam who finish the studies to Mullah-jalal; they receive 5 Tilla a year. The number of the students is estimated at about 10000. A huyrus is furnished very scantily, a few straw-mats, a small carpet to sleep on, a chai-djush (the jug of brass), a pialal, a pen-case (kalamdan) with a sort of ink-stand, a sponge with Indian ink, reed-pens (kalam), writing-paper and the books which are necessary for study. It is characteristic of each huyrus that the walls are covered all over with passages from the Koran etc., which are reminders for the student. The medresses are shut half of the year that the disciple can find an opportunity of earning a little in working in the town or in the country.

At the medresses are appointed the so-called mudarris who are the professors. To become mudarris one must have exhibited proofs of one's legal knowledge, and the administrative officials in Bokhara, Begs etc., must, as a rule, have attended a medresse before entering upon their office.

The instruction is carried on in the following way. The pupils in the medresses study some piece or other, and then they appear in the lecture-rooms, many at a time, together with one or several mudarris to discuss among themselves and to be corrected by the mudarris. This discussion takes a good deal of their time, so that the latter is often wasted in talking, and a course may occupy many years; even those who enter the medresse when young often leave it at a great age. Most of the books are written in Arabic, others in Persian and but very few in Turkish. Altogether 137 books, among which the astronomy is written by the well-known Mirza Ulug Beg, are in use at the medresses, but many are only repeated by rote without the pupil understanding the contents. The books are divided into three classes: Metn which treats of the science itself; Sherh, a commentary of the former and Hashieh, a

commentary of both. The first class is always read in the medresse, the second one sometimes and the third one generally not. A man who is rich and ambitious enough to aspire to higher offices in society or is yearning after knowledge often visits medresses in several towns, going to Mecca and Medina or Constantinople. The Russians prevent, however, as far as possible intercourse with Stambul or Istambul, but many Bokhara men I met with had, never-



School (maktab, mektab or mekteb) in the town of Bokhara.

theless, been in the city of the Sultan which is considered specially fortunate, the Sultan being looked upon in Bokhara as the successor of the Calif.

Mektab. Before anybody enters a medresse, he must first go through the primary school, mektab; there are said to be about 2000 in Bokhara. All boys must make their appearance here at the latest at the age of 7, if they do not begin to frequent the school at that age, mind well, in the larger towns, they are fetched, and their parents are scolded or fined a sum of money; the teaching

of girls is not thought of in Bokhara. There are, however, in Bokhara the so-called bibi-kalfas, girl-schools, but they are only frequented by a few rich people, so that the women are, as a rule, quite ignorant. Judging from the great number of mektabs and from the number of medresses which are said to be about 200, one would not believe that only about one twentieth part of the population is able to read or write. I cannot tell whether the number of mektabs is as large as recorded, but that there are many, especially at Old Bokhara, is daily evident when one passes through the streets; now here, now there a teacher is heard singing from the upper stories of the houses where the schools, as a rule, are found. All those which I visited were arranged in the same way; they consisted of one single room where the light penetrated but sparingly through a loop-hole in the wall. The walls were divided into pointed plaster niches where clothes, books, many bunches of willow twigs for the chastisement of the pupils and in one case even a European clock were placed. At the wall opposite to the entrance was the teacher, mufti, and on the clay-floor which was covered with some clay-platforms or beams parallel with the walls were the small Bokharan boys, all dressed in motley caftans and with large white turbans. The beams or platforms were used by the pupils as tables for the books, and they all read aloud at once, the upper part of the body being always bent to and fro. One reads his alphabet, another verses by Khodsha Hafis, one the Koran in Arabic, in shocking confusion. The lessons are from 6 o'clock in the morning till 5 o'clock in the afternoon with a rest of 2 hours at noon all the year round, except Fridays and a week's holidays on the three great Mahomedan festivals. Every Thursday when the school is generally closed at noon, the pupils bring the teacher a specially well prepared cake. Before the boys leave school, the teacher examines their nails, and if the latter are not clean, he beats the pupil on his head with a book. On Thursdays the discretionary punishments are distributed, and on a boy having played truant, he is found out by his school-fellows and brought to the school where he is laid on the ground, his feet are tied up, and he receives bastinado with the willow twigs. On Thursdays the pupils are also trained in making their appearance at the divine service in the mosques.

Several mektabs generally belong to a mosque and are maintained by its income, "vakuf". They are often established by a zealous Mussulman or the Emir and his officials; but their existence

is principally due to people who live in the street where the school is. For each child 1 and 3 Tilla a year are paid, the pupils also bring gifts in kind to the teacher, for instance caftan, boots, bread, tea etc.. In the school the alphabet is taught, also the Koran, Farze-aïn (prayer-book), Tshâr-Kitab, the 4 books which embody Koran, gospels, Tona and the Psalms. Farze-aïn and Tshâr-Kitab contains according to the Mahomedan view of the matter all that a man ought to know; further Dozbi, Khodsha Hafis, Maslak-al-Mutakin, Mirza Bidil, and in the case of there being many Usbegs in the school, some books are also read in this language, for instance Kitab-Fazuli (Fazul's poems), Lissan-ut-teïr, Divan-i-Amir-i-Naivali, Huaida Kisseh-i-divaneh-i-meshreb, most of it gabbled over without being understood.

According to Russian statements the first thing which the pupil learns is the following verse:

Merciful God, enlighten the heart of thy slave.
Thy slave is a Mussulman (from Moslemin = believer)
Who thirsts for reading the Koran.
He prays for thy patronage,
For he has sinned much.

This prayer having been read, they go on with the alphabet which the teacher writes and pronounces to the pupil, or he makes one of his older pupils who is his assistant, kalfa, do this work. After the alphabet follows "Aldshad" i. e. to learn several difficult words by heart. Then the boy has a holiday that he may go home to his parents to fetch a gift for the teacher. Then the study of the Koran begins, and after some verses (sure) have been learned, the pupils go about to friends and acquaintances, singing a song of praise and thanksgiving and begging money for the teacher. In spite of there being a Persian translation of the Koran in Bokharan which is, indeed, used in the schools, it is considered most appropriate to have to do with the Arab Koran, the proper holy book, but then the pupils only learn this and not the translation of it. Nearly every book is regarded as holy, and it often happened to me that my Bokharan servants took my Russian dictionary or Nautical Almanach between their hands kissing it repeatedly. This shows, for one thing, how poor literature is in Bokhara. Instruction in the mektab generally ends in reading some verses in Usbegic by Divan-i-Amir-i-Naivali and perhaps some poems by Fazul, also in Usbegic.

In school one may also learn to write, but this is rare. This study belongs, as a rule, to the medresses. It appears from this

instruction that, properly speaking, the children in the mektab learn neither to read nor to write, only to babble something which they do not understand; common people do not even understand the contents of the daily prayer which they recite 5 times in the course of the day.

This fairly regular instruction in mektab and medresse is only found in the larger towns. In the smaller and in the mountain villages the instruction generally is occasional, when an itinerant mullah takes up his abode here and maintains life by teaching. Rich nomads or landed proprietors often have their own teacher to instruct their children, even among the Kirghiz mullahs of their own race are met with, teaching in their felt tents and generally supplied with large spectacles. In many of the valleys in Pamir the population is totally destitute of knowledge of both religion or any literary occupation. As many of the Kirghiz they are heathens or they know some scraps of prayers etc. with the most incredible admixtures from other religions or sects, for instance Shiah, which are handed down from father to son. In remote places it is difficult to find a man who is able to write or read. As a rule only the Aksakal (White-Beard), the superintendent of the town, and the Kasi are book-learned, and in most cases only the latter deciphers with great difficulty what is written in his own language.

The Ecclesiastics. The title of mullah is not absolutely the designation of an ecclesiastic. They are, indeed, all termed mullah, but that a man is a mullah only means that he is able to read the language of his country, and if he can also write, he receives the title of mirza. Thus there are several mullahs among the native merchants and agriculturists, but not so many mirzas.

The mullahs spiritual are in the towns easily distinguished owing to their well cared appearance, fine white hands with long, well tended nails, trimmed black, full beard and pale face. They look askance at every European with whom they will have nothing to do if it is not strictly necessary, and on being asked about something by the European who visits the mosques with permission from their own authorities, they generally do not answer, looking scornfully at the European or turning their back upon him. The mullahs, who from their childhood are inoculated with the old-fashioned fanaticism against the Europeans or such as think otherwise, maintain the latter in the population. Elsewhere fanaticism is not great among the inhabitants of Central Asia. One may be as good friends with

them as if one were their compatriot, but on coming near to a mullah the latter instantly makes bad blood, and one's best friends among the natives who would have sacrificed themselves for their European master are, some minutes after the mullah has whispered into their ear, one's worst enemies, who would certainly with cold blood and conscious of having done a good action, cut the throat of their previous best European friend.

The highest spiritual offices are those of Kasi-kalân, Raïs, Imâm (Iman), and the sheiks, and below these are many lower degrees down to the youngest mullah whose main occupation is to sweep the floor of the mosque. Kaśi-kalân (the great judge) is in Bokhara both a sort of minister of Ecclesiastical Affairs and Public Instruction and of Justice. He is allowed to ride into the Emir's palace like the highest officials, and may cast everybody into prison. When appearing in the streèt, he always rides in a gold-embroidered caftan, and his horse is decorated with gold- and silver-mounted trappings and gold-embroidered saddle-cloth. He is always followed by six servants on foot. The latter wear red velvet dresses and high, red hoods, edged with fur, on their heads. Round their waists they wear belts set with small bells which by their ringing announce the arrival of Kasi-kalân. On the sounding of these bells the natives lose no time in bowing during his passing by and crying to him a Salam Aléikum. He is the supreme judge below the prince of the country, and has under him also all the ecclesiastics. He is the supreme administrator of the really considerable estates and stores of money that belong to the spiritual institutions. It is namely a common thing for the rich natives to present great gifts to mosques and medresses or bequeath them a share of their fortune. Elsewhere each mosque or medresse with its special fortune is managed by its Imâm. In the mosque where the Emir of Bokhara or the Khan of Khiva are present at the divine service during the Ramasan, Kasi-kalân always conducts the prayer.

The Raïs is a sort of church- and school-inspector whose duty it is to see that religion is preached in the right way both in schools, medresses and mosques, and for breaches of this he can sentence bodily punishments and impose fines. But it is also his duty to see that every native knows his most important prayers and the principal dogmas in the Koran, and that people attend the mosques. He is very much feared when seen with his enormous, white turban in the bazar, for now and then he picks out a merchant in the shops and catechises him in his prayers on the spot. If the mer-

chant does not know them by heart, he is fined a fine, and on the same man being catechised in his prayers by the Raïs the next time, and having not yet learned them well enough, he is whipped on the spot and sent to school with a mullah, even if he is ever so old. The Raïs also sees that correct weights and measures are used in the bazar and especially that tobacco is not smoked there. The shops with their frame work, wooden doors, shutters and mats are, owing to the dry climate, very liable to catch fire for which reason smoking is prohibited. The Mahomedans are not allowed to smoke, but, far from maintaining this, men and women smoke to a great extent.

Wine is forbidden, and even to name the word is a crime, but nevertheless the Emir drinks champagne (yakshö, lemonade), and opium is smoked in great quantities; but drunken people are never seen, whereas in Russian Turkestan drunken natives are no rare sight. When the native merchant cannot withstand the want of a water-pipe, he always puts another on the watch for the Raïs. The merchants never have their dwellings in the streets of the bazar; at night no one but the watchman is found here, treating his drum incessantly.

It is the duty of the sheiks to have the superintendence of the tombs and guard them and the sepulchral chambers of saints, prophets and holy deceased, inferior mullahs always keeping watch here. They also look after the large common burial places. They collect and administrate the many presents of money that are given to the holy tombs and seize every opportunity of begging from the visitors.

The sheiks are a sort of monks who live in special houses, they have a right to the title of Aulia (also the name of the house). They swear that they will maintain what is prescribed in farg, vajib, sunnet and mustahab (precepts in the Koran). Belief in the mission of Mohammed is prescribed, also prayer five times, fasting, the making of a pilgrimage to Mecca, and various ablutions where one must begin with the right arm and leg, not conversely. They must abstain from haram, certain things that are forbidden, for instance to eat bacon, from makruh on which opinions differ, for instance to smoke tobacco, and from shubheh which from a Mahomedan view of the matter had better be refrained from, thus to wash one's self in water when not sure of its being clean. On men making such an oath they receive a certificate.

To become sheik one must go through a rather trying process. When a man, to become sheik, announces himself in Khanaka, the

house of the oldest ishan, where he lives with his sheiks, he must first prove that he has mastered the Koran etc.; then he must address himself to God in order to learn in a dream whether he will be fit or not; then he must run about for several days and not sleep before having washed himself and prayed, kneeling on a carpet of the purity of which he is sure (that it has not touched anything impure). If he dreams of a green meadow or flowers, it is well, but if he dreams of snakes or scorpions or any other evil animal, he is unfit and is rejected.

In any case, he goes to the oldest ishan (Pir) to tell him the dream. If admitted, Pir asks him to sit down on a clean carpet, a new mat, where he must shut his eyes and repeat Allah no end of times, until he becomes nearly mad, and he must renounce his sins and promise not to commit new, they make the heart, as it is said, pronounce the word Allah, often while holding their breath, then they repeat certain passages from the Koran no end of times; and all this again and again so that many become insane and are rejected, this is now said to be a punishment from God (in other words they have said that their dreams were better than was really the case). There are different degrees of sheiks; those who hold out best under these repetitions can aspire to the highest degree. Some are able to say Allah several thousand times without drawing their breath.

Apart from the ecclesiastics mentioned here there are the Aglem or Aglam, the chief of all the muftis, and the mueddin or sofi who cries out the daily nâmas and whose duty or right it is to be present at weddings, to contract marriage articles and to keep the key of the chest which contains kalim, the purchase money of the bride, which is delivered up to the bride's father; he then receives some tips (silou), gifts and food, all this according to the circumstances of the persons concerned.

Imân pändsh-wakt is a mullah to whom is assigned a special mosque where he, as indicated by the words pändsh-wakt (5 times), may read 5 daily prayers to his congregation.

To the ecclesiastics may be referred the Kasi or Kâsi = judge: there is one in each village or smaller settlement and several in the larger towns. Like all who want to attain offices in Bokhara these have gone through a shorter or longer course in a medresse; all of them are mullahs, but very often they are not mirzas and cannot write. Among these some are appointed at the Bokharan army as a sort of solicitors and are called Kasi-askar, soldiers' judge.

Further, one of the spiritual officials belonging to the royal household of the Emir is always an astrologer, and in this capacity he can no doubt be said to be now the only astronomer in Bokhara. By the help of scraps of the old astronomy from the times of Ulug Beg and Old Arab astrology he determines which are the most fortunate days for the carrying out of the enterprises of the Emir and his Government which gives the Russian diplomacy a good deal of trouble, things being often procrastinated on account of the predictions of the astrologer. On the Emir going by railway to his yearly cure in Caucasus, the favourable time has to be fixed by the astrologer, for which reason the train must often wait day after day before the departure is decided upon. In such cases a very strict order from the political agent is often needed to accelerate the final result of the astrologer's examinations as to the appearance of the sun and the moon and their position and that of the stars in relation to the journey.

Among the ecclesiastics must be classed the so-called ishans, a sort of heads of the many religious orders. An ishan is not appointed by the Administration. In Europe he would be something like a home missionary gathering a congregation by his sacred actions, especially distribution of alms, prayers, religious eccentricity, sham interpretations of dreams or owing to their receiving revelations from God or the Prophet; they keep this congregation collected by the maintenance of certain religious duties more severe than those common. These ishans, often quacks at the same time who heal by the help of prayers or tell fortunes from the hand, generally have much to say in the population in their capacity of heads of the religious societies or orders, so that the Government of the Emir must often submit to them and give up great rights to them; most of them seize the opportunity of overtaxing the congregations and enriching themselves.

Apart from the ishans one meets now and then in Bokhara with people bearing the title of Saïd or Saït which means that the person concerned is a descendant of the Prophet, Ali or Abubeker. The title of Saït has, however, passed into a secular one employed by the Emir who in former days also had the title of Hazret (holy). As a rule the Saïts wear longish hair in contrast to the other natives, and they enjoy a certain degree of esteem and deference whether they belong to the richer or the very poorest classes, and the title always fetches gifts or other emoluments from their neighbours.

A choir of calandars singing religious songs to us in the palace of Ilti-khanéh in the town of Bokhara.

Besides the proper clergy there are also a sort of monks (calandars and dervishes) and the crazy devannahs and the lay preachers. The calandars or singing monks are an order of mendicant friars, agreeing on all points with the same institution within the Catholic Church. In Europe they are often called the howling dervishes, but dervish or darvish is something quite different from calandar. The calandars lead a regular monastic life in the so-called Calandarkhanáh (mendicant friars' house) which is always situated in the outskirt of the towns near the burial places. These Calandarkhanáhs or monasteries of which there is one in each of the larger towns, that of the town Bokhara being the largest, consists of a complex of flat-roofed clay-houses, a sort of serai, where the chief, Calandarbâbâ (the grandfather of the calandars) has his official residence and each of the calandars his special room. On a man wanting to become a calandar he reports himself to Calandar-bâbâ who puts him to the test for 5—6 months throughout which time he must often pray both day and night and perform the humblest monastic duties such as sweeping and cleaning up of the monastery, fetching water etc. If, in the opinion of Calandar-bâbâ he is fit for being a monk after the period of trial, the regular calandar's dress is given to him and together with the others he is sent out on his singing wanderings to beg, their motto being; "Poverty is my virtue". The dress consists in a high, pointed cap or hood (kulâ) made of rough, brown camel hair stuff; it is embroidered with black figures and edged with fur. Under this cap they wear a roll of plaited, black rope (chiltar). The caftan (don or ton) is made of a rough greenish woollen stuff with short white stripes, and under this they wear a small leather jacket with coloured embroidery. The caftan is held together with a broad leather belt (kamarband) on whose front on the stomach a piece of black polished stone (sang-i-kanäät) is nailed. Across the shoulder they carry by a strap a boat-shaped vessel (katshköl) and in their hand a large dried pumpkin suspended by leather straps (mudbakh-kaduh). In the two latter they keep the articles of food which they have obtained by begging. In their hand or their belt they have a thick cane, ornamented with different colours, and carrying at the end a short spear, and from their belt hang down one or more chiselled brass rings. Sometimes instead of the cane named above they carry a short white stick on which rings of bone are strung. The calandar whose occupation is to pray in the monastery, when not wandering, must live in celibacy, propagate or,

to put it more correctly, keep up Islam by singing religious songs all round the bazars of the towns and sustain life exclusively by begging. Dressed in the calandar's dress the monks are sent out by day in bands of 8, singing from shop to shop in the bazars where no merchant refuses them his mite. One of the calandars always walks in front, being the leader of the choir. He begins by setting up a loud yell: "Ja hu, ja hak," and then the other members of the band join in with a softer melody which sounds like growling. All that they obtain by begging they must in the evening on returning to the monastery deliver to Calandar-bâbâ who distributes it among all the calandars of the monastery.

The original calandar dress in the town of Bokhara. Nat. Mus. in Copenhagen. Olufsen's Coll.

The dervishes (darvish) are another monastic order or a sort of hermits held in great reverence by the Mussulmans. They are regarded as the purest monks having even stricter rules than the calandars. Their dress only consists in a large bear's, tiger's or panther's skin tied round the waist with a rope. The other parts of the body are naked, and their head must only be covered by their longish black hair hanging down their backs and giving them the appearance of savages. Elsewhere the natives shave their heads quite bare. In their hand they carry a large club (sâtá), and they are forbidden, or, to put it more correctly, it is an established custom that they do not possess anything but the club and the skin. They are not allowed to have either house or home, wife or children and must, on the whole, forsake all the joys and blessings of life. They are only allowed to maintain life by begging, and at night they have to take their rest in the open air. They are especially seen lying at the tombs of the prophets and the saints, seeking shelter or protecting their naked body from the burning rays of the summer sun under the

shade of trees. They are now and then seen wandering through the bazars of the towns and always singly. Without speaking to anybody they walk through the streets stretching out their hand to ask charity which is not denied by anybody. We Europeans, of course, gave them our mite, but always with a sort of caution, never knowing whether these people burning with fanaticism and crazy from hunger and want might not dash their club at the head of the Christian dog, thinking thus to have done a good action.

In contrast with these wild-looking dervishes others are here and there met with who are, indeed, of the same category, but they prefer a very smart appearance to the dirty savage dress. These are the so-called Jesus-dervishes who on all points try to resemble the image of Jesus (Yisa) which has the same type everywhere both in the Orient and in Europe. Several of them had succeeded so well in this that, on their stretching out their hand suddenly and unsuspected to ask charity one fancies oneself standing face to face with Christ who is, indeed, regarded as one of the prophets of Islam. In Bokhara the number of calandar and dervish orders is said to be 60.

The devannahs are always more or less imbecile or quite crazy. The Mussulmans are namely under the impression that the souls of mad people are already in heaven with God, and that words of wisdom from heaven are to be heard from their crazy talk, as their soul in heaven is the intermediate link between God and the body wandering on earth. All lunatics are therefore considered holy, and on an alms being given to them, their soul in heaven prays for the giver. There are, however, also insane persons who are regarded as possessed by the devil; (wherefore they are treated or were before the interference of the Russians as mentioned in the chapter on illnesses). Most of the cases avoid, however, the attention of the Russians in the provinces. A devannah is, of course, dressed as it comes into his head; they are often seen dressed up in some foolish way or other, for instance, with a paper cap on their heads or with their caftan trimmed with shreds of paper. They sometimes go about with a small iron saucepan where there are red hot coals whose fire they keep alive by swinging the saucepan like a censer. They put the coals red hot into their mouth chewing them without the least inconvenience. They

are also seen riding on hobbies and tooting on cow's horns or walking about with an old spear in their hand.

There is, of course, a good deal of humbug among these devannahs and dervishes. Many make a business of the thing, pretending to be mad or acting as dervishes in places where nobody knows them, and even the mullahs at the mosques are interested in such affairs.

As in Christian countries there are also in Central Asia a sort of lay preachers or yard- and street-preachers whose mission conveys, however, the impression of being a way of money-making. On such a street-preacher appearing in the bazar he is always followed by a crowd of idlers who are in his service as a sort of claque. As a rule the street-preacher only knows a few passages from the Koran which he cries out, and after each sentence the claque clap their hands crying out their applauses to him. Some day, for instance, the street-preacher cries out: "Is not Allah the only God of the Mussulmans?" The claquers: "Barakildéh!" (bravo!) "Is not Mohammed his greatest Prophet?" The claquers: "Barakildéh!" "These Christian dogs ought they not to be ejected from the country?" The claquers: "Barakildéh!" The preacher says, addressing himself to the public: "Then give me a Tengi" (about 4 pence) and thus he went on until his attention had been drawn to the fact that we understood his language. The Mussulmans do not care for exact proselytizing, for God himself decides the number of believers and unbelievers.

A pilgrimage to Mecca is held in great esteem. The pilgrim obtains the title of Hadshi, is allowed to wear a green kalapush, his return is celebrated with a great public festival, and he afterwards enjoys a great social position. It is regarded as an honour and blessing to be allowed even to touch him.

The ecclesiastics (the murids, the mullahs) are the proper upper class of Bokhara, the great compact staff maintaining fanaticism in the population without most of them being in their hearts zealous Mussulmans; for as a rule they are Tadjiks, and consequently very materialistic. In spite of the Tadjiks being in the minority the Persian dialect is, nevertheless, the official language and the language in which all principal discussions are made, the Turkish dialect of the more numerous Usbegs being more immediately the popular language to which the learned Bokharans pay but little regard. The Usbegic as well as the Tadjik mullah considers it,

however, to be his duty to keep up Islam, and he does this without the hypocrisy which is otherwise the characteristic of the cunning Tadjik.

Although the ecclesiastics are the nobility of Bokhara, where there is no other nobility, and their influence is very great, they are not held in great esteem by the population. They are regarded as a necessary evil, and the reputation of the great merchants and landlords considerably surpasses that of the ecclesiastics.

10.

TOMBS

THE Mahomedan tombs and burial grounds attract the attention of the European traveller more than all the other strange phenomena observed by him on his way through the level country of Bokhara and its mountain provinces as far as Hindukush. They are often of a considerable extent and covered by a maze of small houses of all sizes from a dog-hutch to large chapels with cupolae of glazed greenish blue tiles.

The burial ground is generally the first thing caught sight of on passing from the steppes or the deserts into the towns of the oases. Extensive areae outside the walls of the towns and often also in the middle of the towns are covered with tombs whose sarcophagus-like top-stones are often piled up one above the other to form several stories. They lie side by side and one above the other on the outer slopes of the walls, placed here perhaps under the impression that the spirits of the dead, dwelling in the tombs, may prevent a hostile assault. Many are also situated along the inner side of the walls round the towns, and even beside the walks of the inner walls, as for instance at Old Bokhara. Among the tombs of more common mortals sepulchral chambers or mortuary chapels with cupolae or conic towers rise here and there into the air commanding their surroundings. White and black yak-ox tails (tokh) on the top of poles often wave in the wind in honour of the dead saints, and sticks hung with flags (alam) or rags in all colours, but chiefly white and red, are placed at the foot of the sarcophagi and give the place with its many small houses the appearance of a dwarf's town decorated with flags for a festival.

On riding through the Bokharan mountain provinces from Hindukush to Turkestan, flags beside flags are seen at the villages inside square stone-fences which enclose the burial grounds. The

poles placed at the tombs sometimes carry a small glazed earthenware or copper jug (kobbá) on the top instead of a flag, or the top of the pole ends in a hand of iron-plate painted black and with the fingers stretched out.

The tombs are always decorated with a monument somehow or other; this monument may be a rectangular earthen, gypsum or stone-mound reminding one somewhat of our large old tombstones in Europe, or there are several of the kind formed like stairs, one above the other, or there is a small pointed building of bricks, a stone-fence, a small brick building shaped like a spherical segment, a small square wooden house or only an earth- or sand-heap according to the customs of the various tribes; these customs of course depend upon the material yielded by the regions concerned, upon the means of the survivors to erect a more or less luxurious monument, and upon the more or less pious life which the deceased has led in the opinion of the Islamitic ecclesiastics. Like everything else the monuments have in the course of time been subject to a sort of fashion, but certainly less in Islamitic countries than elsewhere.

Sepulchral monuments, or more correctly monuments built in the same form as these, are also built in places where no one is buried. Thus occasionally both in High Pamir and in the inhabited valleys in Pamir we find square stone-folds with alam and tokh or heaps of stones decorated with horns of the kiyik and Ovis Poli or with buffaloes' or cows' horns. In Alitshur Pamir, in Hissar and Karategin we find clay-huts built in the form of sepulchral chambers and often decorated with alam, tokh and kobbá, but no one is buried beneath them. It will be seen later on that they are nothing but memorials, a sort of holy monuments or things connected with religious superstition.

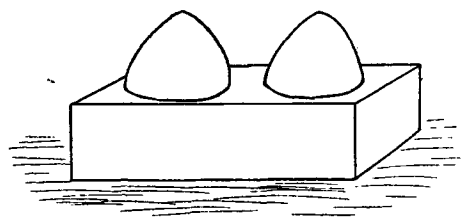
Along the eastern bank of the Amu Darya we find small clay-houses of the shape of sepulchral chambers. Several of them were hung with alam, and in some of them old wooden dishes, wooden spoons, brass jugs or the like were placed both in the chamber, on the roof or round about the building. These buildings are a sort of prayer-houses, erected for religious superstitious reasons, and the things heaped up in them are sacrificial offerings.

We shall first deal with the tombs and then describe some Islamitic holy places easily mistaken for sepulchral monuments.

Our knowledge of the Pre-Islamitic time in Central Asia is but scanty and we have but little information even as to the first Is-

lamitic period. The past of Central Asia is on the whole shrouded in a darkness which it is difficult to penetrate. Only scattered accounts not easily collected into a whole are at our disposal. The reason is, no doubt, that very little has been done to examine the material scientifically. If the many ruins were excavated, if the burial mounds on the steppes were opened, the result would, no doubt, differ from the present one.

Below the surface of the earth we must seek for and will surely find the Pre-Islamitic history of Central Asia. On the surface there are still some remainders of the Islamitic middle ages; the early ages have vanished. But even the relics of the Islamitic middle ages are marked by the sign of death, and it will not be long before the remains of the flourishing period of Islam in Central Asia, the time of the Timurides, will be ground down to dust by earth-quakes and want of repair. The grandest monuments left us by Timur, the splendid edifices of Samarkand, the medresse of the town of Turkestan (built in 1397), the mosques, palaces, medresses and sepulchral monuments of Bokhara, Khiva and Kona Urgendtsh are in a state of decay.



Rectangular gumbas with two cupolae (double-tomb).

It has been maintained over and over again, that Islam had no culture, but, nevertheless, there are here splendid edifices of great artistic value, built by the men of Islam and in danger of perishing before any memorial of them is handed down to posterity. But apart from these there are buildings which are not of any great artistic interest, but which nevertheless deserve to be brought to light. Thus the Islamitic tombs and sepulchral monuments which besides being of historical interest are of interest to ethnography.

The confused mixture of Christianity, Judaism, ancient Arab paganism, Parsee superstition and Buddhism, of which religion, religious life and customs in Bokhara are made up, has produced a certain disrespect for all religious life in the countries of the Mussulmans, and yet there is hardly any religion that bears so much upon the population as Islam. In spite of its despotic and exclusive character its adherents have not in the course of time been able to shut themselves out from every exterior influence, and inevitably a certain development has taken place within Islam itself. From this

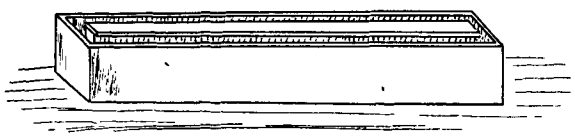
point of view we will study the tombs and sepulchral monuments of Bokhara.

Before the spread of Islam over Merv and Transoxania on the invasion of the Arabs in 666 the original agricultural population embraced the doctrine of Zoroaster, in the corrupted form, indeed, which the original Ayesta faith had assumed under the dynasties of the Achæmenides, Parthians and Sassanides from about 250 B. C. until the appearance of Mohammed. The dead bodies were exposed to wild beasts on hills in desolate regions and the skeleton (which at all costs had to be left unhurt for which reason the dead body was covered with stones, that wolves and dogs should not carry away the bones) was later buried in a tomb. Under the dynasty of the Parthians from about 250 B. C. to 220 A. D. the dead bodies were sometimes burned in sheer defiance of the Avesta faith.

Under Islam the dead body is now everywhere in Bokhara buried shortly after life has become extinct. When a man is dead, the women of the family assemble in the chamber of death or in a corner, of which there are so many in the Bokharan houses, uttering loud moans and lamentations, tearing their hairs and lacerating their faces and hands with their nails. Neighbours and friends also come to mourn his loss. Even the day after the corpse is washed and dressed in a sort of shroud, according to the prescriptions consisting of 3 articles of dress, one above the other; the last, covering the whole body, is called chaudir (tent). The shroud is of white or yellow stuff, cotton or silk according to the means of the family. The outer garment is tied together in a knot on the clean-shaven head (if the dead be a man), and the face, hands and feet of the corpse must be free, so that the dead may be able to arise at the call of the Prophet. The tying of the outer garment in a knot on the head has its own significance. On his journey to paradise the dead has, namely, to pass the bridge (esh-Shirat) that crosses hell; this bridge is as narrow as a hair and sharper than a ground sword. From this bridge the sinners fall into hell; but the Prophet catches the just by the knot of chaudir, thus preventing them from falling into the fire below the bridge, and leads them into the cool gardens of paradise with its many fresh running ariks, shadowy trees and fair maidens etc. If this knot were not tied on the head of the dead there would be nothing for the Prophet to catch hold of, as all Bokhara men shave the head smooth with the razor.

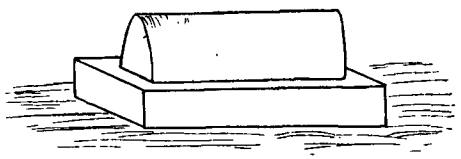
The same day as the corpse is dressed in the shroud, it is laid

on a sort of bier, the sides of which are wrapped up in blue stuff; it is carried by four men and accompanied by the survivors and their friends to a mosque where an ecclesiastic reads prayers over the dead, and then it is carried to the burial ground or the place where the deceased has wished to rest, often a burial place which he has prepared for himself and possibly for his nearest relations. Both men, women and children attend the funeral, at the grave the women again howl, and more women are often hired for this business, a mullah reads from the Koran, and the attendants receive pieces torn from the shroud. The corpse is laid without any coffin



Long rectangular kabr.

Kabr in several stories.



Pointed kabr with rectangular basis.

in the brick-built tomb. For two days after the funeral the Koran is read in the house of mourning, and on the third day the survivors and the friends after morning prayers in a mosque go to the house of mourning to hear extracts from the Koran again read, then a meal is eaten, and for a week prayers are read in the house of mourning. On the great Mahomedan festivals the female relations of the dead man or woman assemble at the grave to utter their lamentations and howls, or hired women are sent there.

Above the brick-built tomb are built various monuments if they may be so termed. The shape of these monuments, sanctuaries, sarcophagi or tombstones (kabr or sar-khanáh (head house) as they are called) will be treated of in the following.

Islam contains in Central Mid Asia and Persia two main sections, namely Sunna, the orthodox, and Shiah. The latter sect originates from the period between 714 and 874, the present Per-

sians belong to it, formerly also the Afghans and some people living in the parts round about, and, as hinted at above, it has had many adherents in the countries of which we are speaking, but now every one in these parts is Sunnite, by name, at any rate, even if not at heart. Both sects bury the corpses in brick-built rectangular tombs, so long, that the body can be stretched out at full length, the head resting somewhat higher than the body. But while the Sunnites lay out the tombs, so that on the corpse lying stretched out with his head bent sidewards, the eyes look towards Mecca, the Shiites give the tomb a direction so that the legs are turned towards Mecca and the eyes look upwards. Both of the two sects, of course, quote their reasons for their way of laying out the tomb. The orthodox Sunnites say that the eyes must always look towards Mecca so that they may be ready on the Prophet calling on the Day of Judgment, and they consider it quite ungodly to turn the legs towards holy Mecca. The Shiites say that the corpse must necessarily lie in their way, because then they are able to arise easily on the Day of Judgment and look at the same moment towards the place from which the appearance of the Prophet is expected. As far as my knowledge goes, nobody in Bokhara now dares profess Shiah for fear of the Sunnites, but the latter maintain, on the other hand, that among them there are those who are Shiah in their hearts, and bury their dead in Shiitic way. In order to keep this in secret, however, they lay out the kabr according to the Sunnitic rule, but the tomb itself in the direction of the Shiah sect, kabr and tomb (Gur) thus coming to lie athwart of each other.

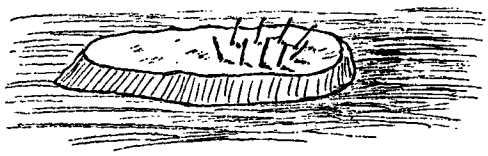
Only in a single place in the Pamir valleys have I found an instance of the kabr having Shiitic direction. On the burial ground (guristan or guristân) all kabrs are elsewhere parallel to one another.

The kabr, which only covers the corpse from head to knee has two fixed main types, namely the pointed brick-, gypsum- or clay-sarcophagus and the broader or narrower rectangular kabr. Both are sometimes coated with a covering of carved wooden plates or with the beautiful glazed majolica, and the rectangular type is also seen in finely hewn, black or white marble. Of the latter kind many very interesting ones are seen in the village of Baha-Eddin or Bahavadin, as the word is generally pronounced by the natives.

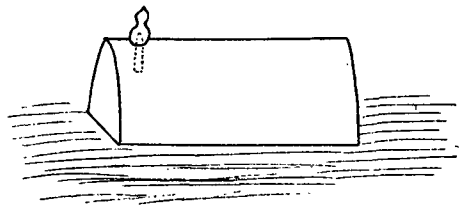
These two main types of the kabr sometimes become mixed, the pointed kabr being placed upon the rectangular figure, or se-

veral rectangular kabrs are placed one above the other, thus becoming formed like stairs. Then there are some forms differing from these and exceptions. For many reasons which shall be treated of later on we consider the pointed kabr as the original one; this form has developed under the Arabs during the infancy of Islam or perhaps even before; the rectangular kabr has been introduced later by the Persians and has passed from Khorassan into the towns of the oases of the Bokharan level country and of East Bokhara, and possibly over Balkh into the Pamir valleys.

It would be too long to discuss the details of a theory of evolution here, and I shall only remark that the old Roman stone-sarcophagi, where the lids are often hewn out at the top in the form of a ridge, remind one greatly of the present pointed Mahomedan kabr.



Poor Kirghiz tomb in the steppe.
At the head a circle of rods is stuck down.



Pointed kabr with kobbá.

The pointed kabr is everywhere the most common. In High Pamir we find it among the Kirghiz on the banks of rivers and lakes where the main camps of these nomads are, and where they lay out their burial grounds on infertile mountain slopes, so as not to take up room where there can grow grass and not to have the spirits who haunt the graves near the tents. The pointed kabr has mostly the form of a sand heap, as other material is often not available. The tomb itself is formed of flat pieces of slate, and on the top the kabr is ornamented with a circle of small sticks stuck down into the sand, or a circle of small stones are placed above the spot where the head of the corpse rests. A wreath of rope is sometimes laid at the head end of the kabr, or the whole kabr is encircled by a rope of camel hair.

In Bokhara in all the towns of the oases the pointed brick-built kabr is seen in such great numbers as to completely give the burial grounds their character. At some distance it looks as if the yellowish grey loess which is cementlike and hard in summer had been ploughed up in large clods.

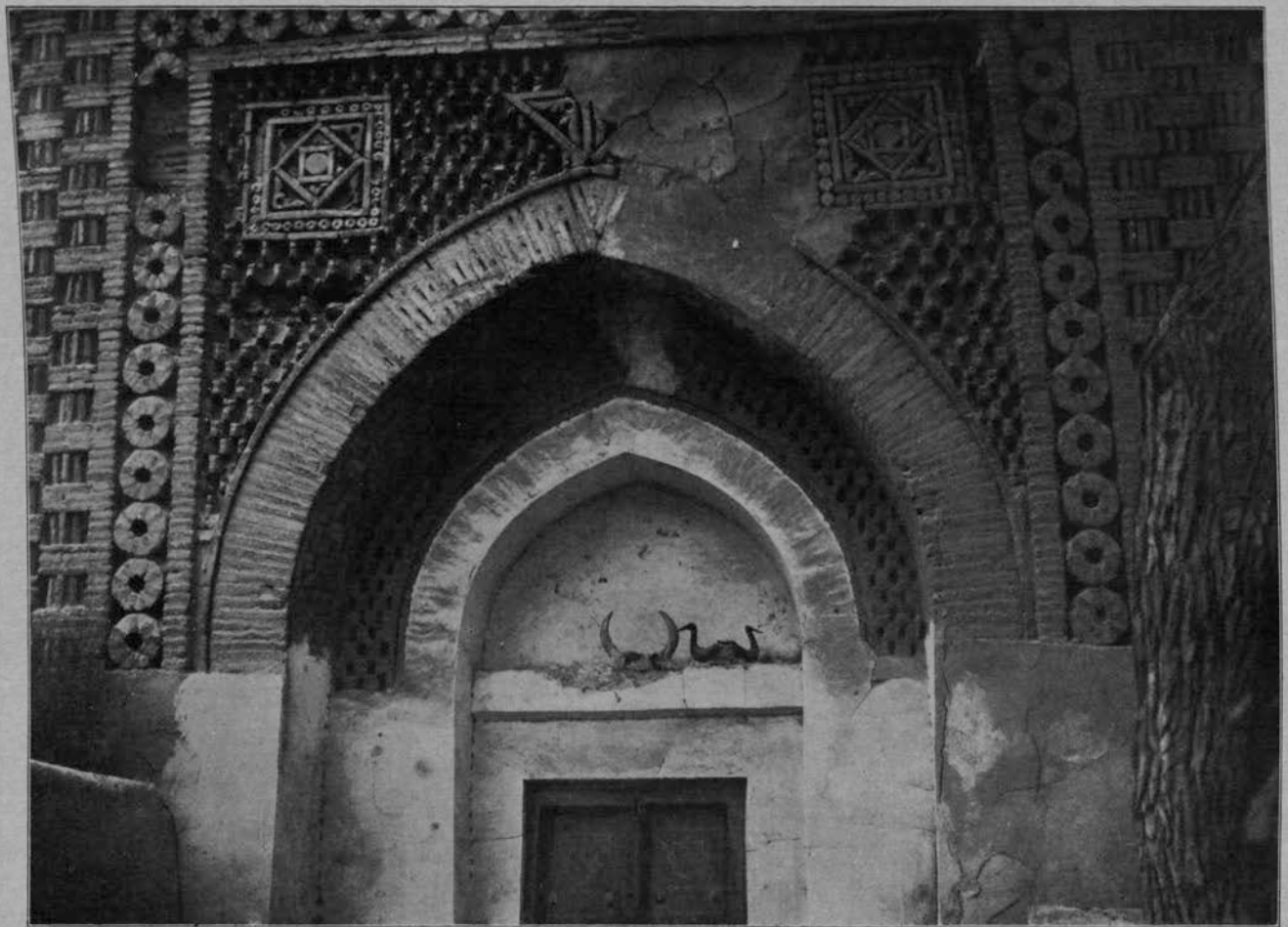
The kabrs built over ordinary mortals are of all possible sizes according as grown-up people or children are buried beneath them. The most general type, seen by thousands everywhere, is at most 1½ metre long and 1 metre high. Out of regard to room in the fertile oases where every bit of ground must be utilized, as far as the irrigation reaches from that river upon which the oasis is dependent, new kabrs are built above the old, so that the burial ground grows higher and higher. As the slopes of the walls cannot be cultivated, the kabrs in all larger towns where there are walls and bastions are built in a wild confusion one above the other, often right up to the top of the wall. For other reasons besides want of room the tombs are heaped up beside and above one another, thus round the sepulchral chambers and tombs of the prophets and saints where it is considered good to rest that these persons may intercede for the dead on the Day of Judgment. A typical example is seen at the mausoleum of Ayup Paigambar in Bokhara. As a rule the tombs are not kept in repair, and as they are often insecurely built, it may happen that on passing over such a field of kabrs one falls down into one of them. If the tombs collapse, the Mussulmans say that God himself has destroyed the tomb and thrown the bones in all directions, so that the ungodly man shall not be able to find them again on the Day of Judgment and consequently not arise.

The common kabrs are hardly ever decorated with any ornament whatever. No name-plate or mark renders it possible to see any difference between them. As a rule they are entirely walled up; but in many towns it is customary to leave a hole open in one end of the kabr which is only shut with loose bricks that the soul may get out more easily. It is a general belief here as formerly in the religion of Zoroaster that the spirit of the dead person dwells some time at the grave itself.

It is not rare for a man, while still alive, to build his own kabr and even one for each of his wives and children. In this case one of the gables of the kabr is left open or only shut with loose bricks.

The so-called kobbá[1]) is sometimes placed on the ridge of the pointed kabr above the head of the corpse. This is a round tap of green glazed clay, the same as is seen decorating the top of the cupolae of mosques and sepulchral monuments.

[1]) Kobbá or chubba (Arabic) properly means cupola, but in these parts it now means nothing but the clay-knob on top of the cupola.



Entrance to an old sepulchral chamber of burnt bricks in the town of Bokhara.

This kabr was in a small mud-built sepulchral chamber bearing the title of aulia, and as the word aulia designates that a saint is buried here, aulia being derived from Aulat-i-Paigambar = the descendant of the Prophet, the kobbá must also, no doubt, be a special distinction of the dead man. Outside the sepulchral chamber there was namely also a mast hung with alam and tokh.

As above mentioned "tokh" is the tail of the yak-ox (kutas) in Pamir; it is hung up on a pole at the graves or over the tombs. Both the white tail and the black one mark out the spot as very holy, the white tail being, however, the holier symbol of the two. A tokh hung up is the highest honour that can be shown a dead man, and it is only placed there after much discussion among the highest Islamitic ecclesiastics. It is curious that nearly all dead saints are Usbegs. Tokh can only be acquired by the man who has rendered special services to Islam, his social standing is of no importance. In this respect the Mussulmans are very democratic. Thus it is rather remarkable that the graves of the Emirs of Bokhara are not adorned with alam or tokh. Over some of the latest Emirs in Bokhara, the notorious Nasrullah (1826—1860) and his successor Mussaffar Eddin Abdul Khan, the father of the present Emir, who are buried in the town of Bokhara, pointed kabrs without any ornament are built. They can only be distinguished from the other common kabrs in that they are covered with a solid layer of cement and encircled by a low wall.

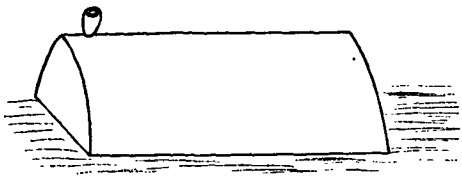
The fact that a tokh waves over a grave properly means something more than that the dead man must be considered the descendant of the Prophet. It means, either, that he is a prophet, of course, inferior to Mohammed, or that he must, at any rate, be considered to be equal to such a one. Alam says that the grave is an aulia, the name by which it is called by the natives, i. e. a saint is buried there.

None of the natives who answered other questions of this kind were able to give any satisfactory explanation as to the meaning of kobbá. Such was the custom, but it was sure to be an honour paid to the dead man. The kobbá is sometimes seen on top of poles raised over graves in the oasis of Bokhara and in Vakhan in Pamir which have no other ornaments.

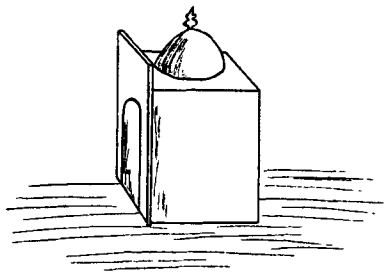
I therefore presume that the distinctions of the tombs of the dead follow another from the highest to the lowest in the following order: the white tail of the yak-ox, the black one, alam and kobbá. If the kabr is adorned with one of these ornaments, the other in-

ferior one may also be there. Over graves decorated with a tokh a sepulchral chamber or mausoleum (gumbas or gjümbas) is generally built where the front and roof are adorned with horns of oxen, deer or wild sheep, all being symbols of strength. Gumbas or turbéh is the name of the building itself, whereas the grave, if it is the grave of a saint, is called mazar.

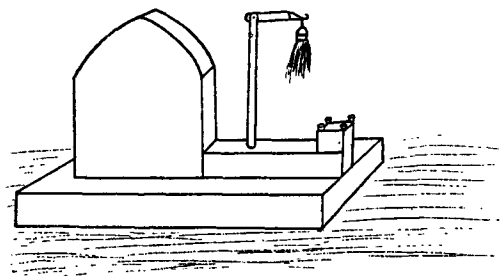
On some pointed kabrs I have seen a jug of glazed clay instead of kobbá. It was of the same shape as the so-called weeping-jugs



Pointed kabr with earthen jug for corn and water.



Form of the common gumbas.



Tomb of Pasha Ismail-i-Sâmâné.

(which are nothing but jugs with a pointed bottom to stand more firmly in the sand, and not, as was formerly thought, intended to contain the tears of the survivors of the dead and then be placed on the tomb), and ended like these in a point which was fastened to the kabr. The relations of the dead laid corn for the birds in the jug or vessel; its upper part was more like the latter, and it was considered a good omen when the birds and especially the pigeons, which are kept and fed in the mosques and looked upon as a sort of holy birds, came to eat the corn. The opposite is considered to be a bad omen. A vessel engraved with passages from the Koran or spells and filled with water for the same pur-

pose is also sometimes placed on the kabr. Possibly the latter customs have an older meaning, namely that food is placed for the spirit of the dead man while staying at the grave.

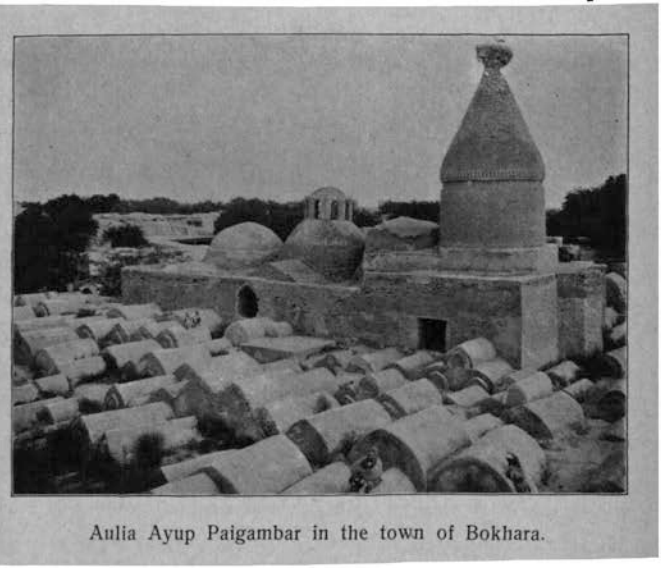
Among remarkable, pointed kabrs whose age can be determined with tolerable certainty, ought to be named Aulia Pasha Ismail-i-Sâmâné. This aulia lies near the prophet grave of Ayup Paigambar in the town of Bokhara. By Pasha Ismail is no doubt meant the Samanide Ismail who was born in Ferghana in 848, and died in Bokhara of fever in 907. During the reign of Ismail who was King of Bokhara, there was a growth of culture in Transoxania under Islam, much the same as later under Timur, but on a smaller scale. Originally he was only King of Bokhara, but on the death of his brother Nasr he also became the ruler of Samarkand. Later on his victorious armies gained him the sway of Kharezm, Merv, Balkh, Herat and almost the whole of Persia to Mesopotamia and also the the eastern parts of Central Asia to the Tian-shan mountains, in which realms he had his viceroys. Right up to his death he held this extensive realm under his sway, and he is said to have been a very magnanimous ruler.

Under him Bokharan agriculture flourished, as he had numerous irrigation canals and reservoirs built. He was also a great patron of science, especially theology, and he built many splendid mosques and palaces.

Over his grave is erected a mausoleum of burnt bricks, without any ornament of glazed tiles. It is very roughly made, and the front is decorated with pressed bricks. The entrance through the pointed porch is shut by two carved wooden doors of recent date, cow's horns are placed on a shelf at the top of the door.

Beneath the pointed vault, which is coated with plaster, is the grave of Ismail; it is adorned with a pointed kabr about $1^1/_2$ metre high and covered with plaster. The kabr is placed on a square platform of plaster. On a smaller platform resting on the square substratum and athwart of the kabr is a tokh, and at the end of the small transversal platform is a stand with four small earthen bowls where candles are lighted on the festivals of Islam, and especially during the Ramasan. Bowls or earthen lamps (chirâk) placed on a grave are a further mark of distinction of the deceased, and as we shall see later on, many graves are furnished with a small altar for candles, a sort of light-house (chirâkkhanâh), a custom which is undoubtedly derived from the Parsee or Avesta religion.

The following story is told of this aulia. It was built in one night, no artisan was engaged in its erection, and nobody knows how it came into existence. At each end of the kabr is a hole down into the grave. When two men were at variance with each other, each of them wrote his complaint in a letter and both letters were put into the same hole. Soon after the letter emerged from the other hole, and the letter belonging to him who was in the right was now furnished with the seal of Pasha Ismail. For 39 years quarrels were decided in this way; but then two men quarrelled about 1000 Tilla which one of them owed to the other. In spite of his denial the creditor had received the money which be now kept in a hollow stick. On arriving at the grave the liar asked the adverse party to hold the stick while he threw his letter into the hole, thus he thought that he could deceive Ismail in maintaining that he was not in possession of the money while putting the complaint into the grave. No letter appeared, however, and from that time Ismail never decides any quarrel. On a woman once trying to gain access to Ismail her hand, with which she put the letter into the hole, was seized by another hand, and she died on the spot.



Aulia Ayup Paigambar in the town of Bokhara.

Among older pointed kabrs we find in Bokhara one built over the grave of the prophet Job. It is well known that Islam has inherited much of its religion from Judaism, and thus the prophets of the Jews have also become the prophets of the Mussulmans. Round about in Central Asia there are graves which tradition says hold the mortal remains of several Jewish prophets, and the scene of their life and dealings is also laid here. In the town of Bokhara the natives insist upon the prophet Job being buried in the aulia of Ayup Paigambar (The Prophet Job) near the above mentioned aulia of Ismail on the west side of the town close to the

wall by which Bokhara is surrounded. The aulia is a large partly subterranean structure with rectangular base and furnished with three small cupolae besides a small tower with conical top. On the middle cupola is placed a chirâkkhanáh. Through small plastered lattice windows a feeble light falls into the sepulchral chamber, and all round the aulia are a confused maze of pointed kabrs. It is built of burnt tiles without any ornament of encrusted tiles. The entrance to the aulia which is divided into three rooms which form a connected series is through a low door where sheiks keep watch.. The first room is a sort of empty lobby. In the middle of the second room there is a deep, narrow well where there is splendid cold and clear water. The water is partly used as drinking water and partly to wash in against diseases, as it is said to have healing power. Whether it is better than good spring water on the whole must remain undecided; but the aulia has a considerable income, as the water is sold to well-to-do people who live near the aulia, and ill persons make pilgrimages to the place to buy the holy water from the mullahs who keep watch. On Paishambéh and only on that day in the week women are also allowed to come for water here. Mohammed did not absolutely forbid women to stay in mosques or in holy places; but he thought that they had better keep away.

From the room with the well one enters through a low door that is always locked into the sepulchral chamber proper which like all other sanctuaries was opened to us by order of the Emir. Over this door are a few glazed tiles and high above these a wooden table with carved letters which could perhaps give some information as to the origin of the aulia, if they could be interpreted in spite of the damage which the table has suffered. On both sides of the latter depressions in the wall suggest the former presence of two tables more; this was, however, denied by the sheiks. In the innermost dark room where a dervish-hermit keeps watch is a very large pointed kabr built of bricks and plaster and everywhere covered with carved boards of apricot wood. The main figures on these boards are polygons twisted into one another and filled with conventionally composed flowers and leaf ornaments, a mixture of Sarácen and Persian style. The kabr is surrounded by a wooden enclosure carved in the same way as the wooden case of the kabr. The carving is skilful and pretty. Judging by the designs of the carving the kabr is very old; at any rate older than the buildings of Timur in Samarkand. It is presumably a remnant from the in-

Entrance from the anteroom in Ayup Paigambar to the sepulchral chamber of the prophet. Right at the top above the door is walled in a wooden table with inscription in relief. The niches in the wall on both sides of the table suggest the former existence of two more tables. The sheiks insist that there have not been any more, but the possibility of their having themselves sold them is perhaps not precluded. Below the table a series of compressed and glazed tiles and above the door a fine kashi in the Damascus style.

fancy of Islam in Transoxania, consequently from the 7th or 8th century. The kabr was covered by a magnificent carpet embroidered with gold, and above were hung white and black tokh and alam. In niches in the walls were placed several chirâks (lamps of much the same shape as the old Roman and Parthian lamps of terra cotta).

Tradition says that Job not only is buried here, but that he lived here with his plagues for 63 years. Once Job had committed a grave sin, and God had his whole body covered with worms that eat his dress and gnawed his flesh. Two of these worms, however, crept away from Job; one of them went down into the water and became the progenitor of the leeches; the other creeping up into a mulberry-tree became the progenitor of the silkworms.

A remarkable sepulchral monument is the Tower of the Dead in the town of Bokhara. It is a very high isolated minaret built of excellent bricks. It is the highest one in the town and up to some 20 years ago the Emirs used it as a sort of place of execution having their enemies thrown down to the ground from the top of it.

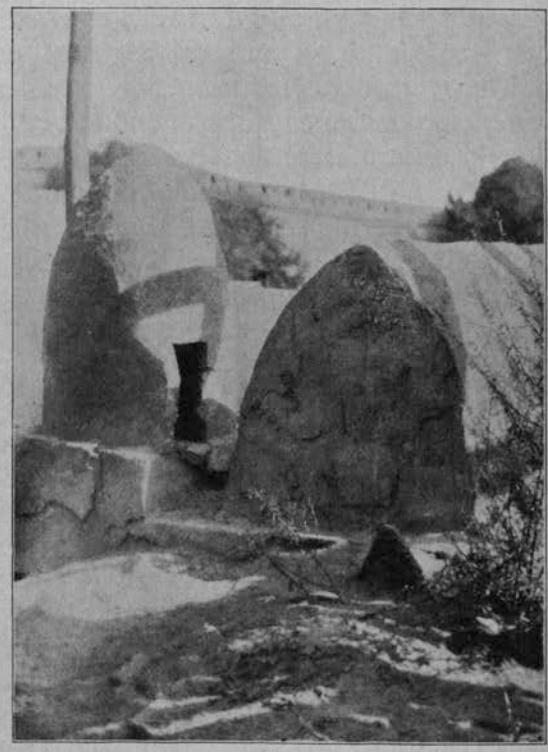
About the origin of the minaret is told the following story. It is said to have been built by Emir Kizil Arslan Khan (The Red Lion Khan). The natives say that Emir Kizil Arslan quarrelled with Imâm (Iman) Kutajibá Sahâbé and had him killed during prayer (nâmas) in a mosque. The night after the Emir had a dream in which the Imâm came up to him saying: "You have now killed me; but oblige me by laying my head on a spot where nobody can tread." Then the Emir built the Tower of the Dead over his grave.

According to the natives the same Imâm is said to have built the large mosque at Bokhara, Mashit-i-Kalân (the large mosque) where among other things there is a font, very like a baptismal font. It is hewn out of granite and is called Rustems Pialal i. e. the vessel of Rustam.

Opposite to Mashit-i-Kalân is the medresse of Hazreti-Mir-Arab. In this medresse to the left of the vault of the entrance gate is a large sepulchral chamber. It consists of high vaulted rooms with pointed arches, the walls are covered with beautiful old earthenware of various colours, and it is filled with many pointed kabrs, partly covered with glazed tiles and with carved wood as in the aulia of Ayup Paigambar.

The sepulchral chamber in Hazreti-Mir-Arab ought to be more closely examined. We had only opportunity of taking a cursory view of it, as the indignant mullahs, who surrounded us, and the

natives who crowded round the medresse on our entrance here, objected to our presence in the sepulchral chamber. All of them seemed so irritated that we feared they might in some way or other interfere with us, and to this we would not expose ourselves, for one reason because we were otherwise on friendly terms with every one in Bokhara, both high and low. Whether this sepulchral chamber is looked upon as the Holy of Holies in Bokhara, I dare not say. On the whole our visits at graves and sepulchral chambers were not very welcome; but nobody seemed over exasperated at our appearance, especially as they were always sure of tips (silou); but I never saw fanaticism flashing from the eyes of Mussulmans as it did on this occasion.



Aulia Khodsha Tyshabé near the town-wall of Bokhara. To the left of the sarcophagus a clay-tower (chirâkkhanáh) where lighted lamps are placed. On the pole hangs an ox-tail.

On the north side of the town of Bokhara is the aulia of Hazreti Imla, a clay-gumbas enclosing a pointed kabr of burnt bricks. Beside the kabr is built a tower about 1 metre high of the same shape as the towers from which the mueddin cries out the daily prayer from the roofs of the mosques. In the tower (chirâkkhanáh) are placed chirâks of clay and cast iron of the very same shape as we can trace back to the days of the Parthians. Over the gumbas is hung a black tokh. The sheiks say that the aulia is only some 150 years old. The custom of erecting a chirâkkhanáh beside the kabr is found in the aulia of Khodsha Tyshabé. The latter which is situated on the west side of the town of Bokhara close to the city-wall only consists of one large pointed clay-kabr without gumbas.

It is said to have been built about 1700, and over the kabr is placed a black tokh.

In the court-yard of the mosque of Baha-Eddin or Bahavadin, as it is called by the natives, which is situated in the village of the same name about 8 versts south-east of the town of Bokhara are 3 connected pointed kabrs, which according to the mullahs hold the remains of three disciples of Baha-Eddin who had come hither to hear the renowned and learned theologian. The kabrs rest on a square mound of cement; they are about 1½ metre high and overlaid with a smooth surface of plaster.

These kabrs cannot have been built later than in the 15th century, as Baha-Eddin is said to have died in 1388. Even if the latter year is not quite correct, we know that Baha-Eddin lived under Timur (Amir Temir = The Iron Emir) (1363—1405).

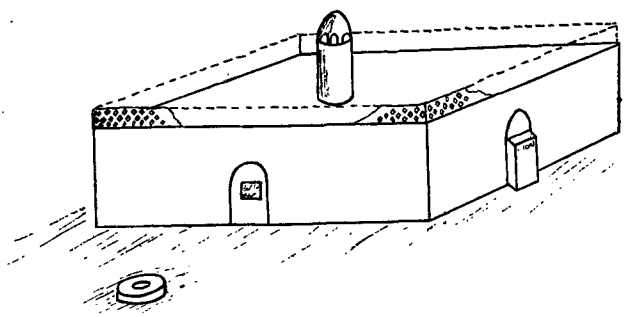
Just outside the city-wall of Bokhara in S. b. E. is the saint's grave of Bâbâ-i-shauk. To reach it one has to traverse a small complex of medresses where mullahs and mullah-aspirants live in their small chambers, and then there is a small mashit. To the left of the mashit is a pond with brick-built stone-settings round which are grouped some small mullah houses and to the right is the sepulchral chamber, a gumbas, the entrance to which is through a beautifully carved, old wooden door. In the middle below the vaults of the gumbas is the grave which is adorned with a large pointed kabr of burnt plastered bricks. The kabr is covered with a white linen cover, a custom met with sporadically everywhere in Sunnitic Central Asia, and at the head of the kabr is placed a black tokh and a chirâkkhanâh. Bâbâ-i-shauk is said to have been a shoemaker renowned for his holiness who lived at the time of Timur. The carved wooden door seems to speak in favour of the correctness of the stated age.

The rectangular or cubical kabr was certainly introduced into Bokhara at the time of Timur and the Timurides. It is shaped like a coffin with flat lid or it is low and broad like a tombstone in Europe.

Round the sanctuary of Baha-Eddin are several of these beautiful kabrs; many of them are adorned with skilful carvings in Persian designs and furnished with Persian and Turkish inscriptions which ought to be very soon interpreted before they vanish. Among these kabrs is the tomb of Emir Subhân Kuli Khan, surrounded by a fence of carved black stones and furnished with small chi-

râkkhanáhs of black marble. Subhân Kuli Khan of the dynasty of the Ashtarkhanides reigned in Bokhara at the end of the 17th century and took a great interest in science and art, thus he wrote himself a medical book in Turkish.

Baha-Eddin is called the sacred devannah by the natives. He did not, however, belong to this category, being a learned theologian and one of the counsellors of Timur. Timur was a great patron both of science, especially theology, and of art, and, before marching against his neighbours or attacking a town, he is always said to have asked advice of Baha-Eddin. With closed eyes the latter prophesied the issue of the intended enterprise, and his prophecy always came true. Khodsha Baha-Eddin was a sort of mystic, the founder of the Nakishbendi order and the originator of various religious extravagances in Bokharan Islam. He is honoured as the national saint of Bokhara, and three pilgrimages to his grave are said to be equal to one pilgrimage to Mecca. The grave of Baha-Eddin is situated in a corner of a shady garden or grove of large apricot and mulberry-trees surrounding a blocked up space where there are two mosques at which only Hadshis officiate. The monument over the grave consists of a rectangular kabr, about 8 metres long and $1^1/_2$ metre high. On one side is a black stone, the so-called wishing-stone, Sang-i-Murad, which the visiting pilgrims kiss and against which they rub their forehead so that it has become quite worn. On the middle of the kabr is erected a chirâkkhanáh. The kabr must be considered to be of Persian origin; together with many of a like shape, among which several of black marble, that are dotted about outside the blocked up place, it was executed by Iranian artisans who where called in by Timur and the Timurides. Near the grave of Baha-Eddin is the sepulchral monument of Emir Abdullah-Khan, a large rectangular kabr of cement, round whose upper margin there is a low balustrade of latticed black marble. It is also adorned with a chirâkkhanáh, and on two sides there are



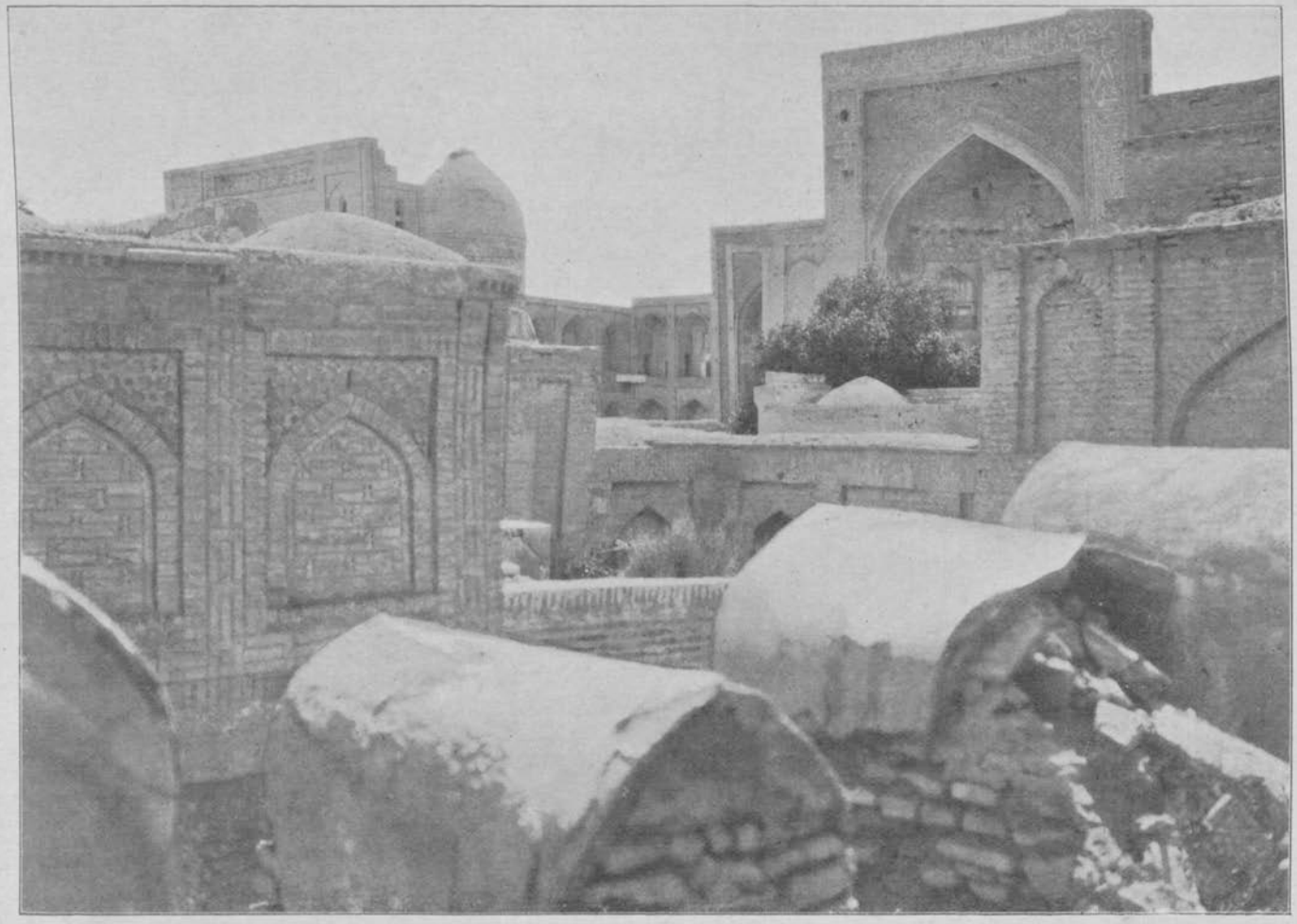
Sketch of the tomb of Baha-Eddin.

stone tables with Persian inscriptions. Both tombs are decorated with many tokhs and alams on long staffs as a sign of the great holiness of the place.

One of the two mosques containing these holy tombs is said to have been erected in 1482 by a vizier of Emir Abdullah-Khan. His name was Bâki Bi (Bi is a high official title). It was later on decorated by Mussaffar Eddin Abdul Khan, the father of the present Emir. Both mosques have large verandas with oratories behind and rooms for the Hadshis. The ceilings of the verandas are made up of beautifully carved, coloured and gilt wooden panels, and the pillars on which they are supported are also carved and painted, ending above in an extraordinary pointed capital such as are seen in several places in Turkestan. The entrance to the mosques is through a high vaulted porch shut with heavy, double wooden gates. On the gates are placed no less than 16 knockers, some of brass, some of silver. Several are engraved and furnished with inscriptions. They have been given to the mosques by benefactors or people who think they have been cured by the water from the springs in the yards of the mosques. One of these springs is covered over by a square tower about 3 metres high carrying a chirâkkhanâh on each of its corners. The pilgrims drink the water, wash themselves with it, kiss the stones round the springs and the sacred kabrs and pray beneath the verandas where in the evening candles are kept burning in large metal chandeliers.

To the whole complex of Baha-Eddin mosques, tombs, springs and gardens belongs the garden of Seili-Gul-i-Surkh; every year in May a festival is celebrated on a fixed day in each of the 4 weeks of the month in memory of Baha-Eddin. The festival is called Gul-i-Surkh-i-Baha-Eddin (Gul-i-Surkh means red roses or red flowers, the festival being a sort of spring festival, a remnant handed down from the old Avesta faith). During this festival lamps are lit in all chirâkkhanâhs and at the kabrs. On Paishambéh women are allowed to make pilgrimages to the mosque and the grave.

In the town of Baha-Eddin, built round the sanctuary and very densely populated, a fair is held every Wednesday, and then an endless procession of donkey-riders are seen on their way from Bokhara to the place where the fair is held. The frequenters of the fair never forget to visit the sanctuary and to these visits and to the numerous pilgrims coming hither from remote places and countries it owes its enormous riches. The Hadshis seize every opportunity of mulcting people, and they scornfully refuse to receive a



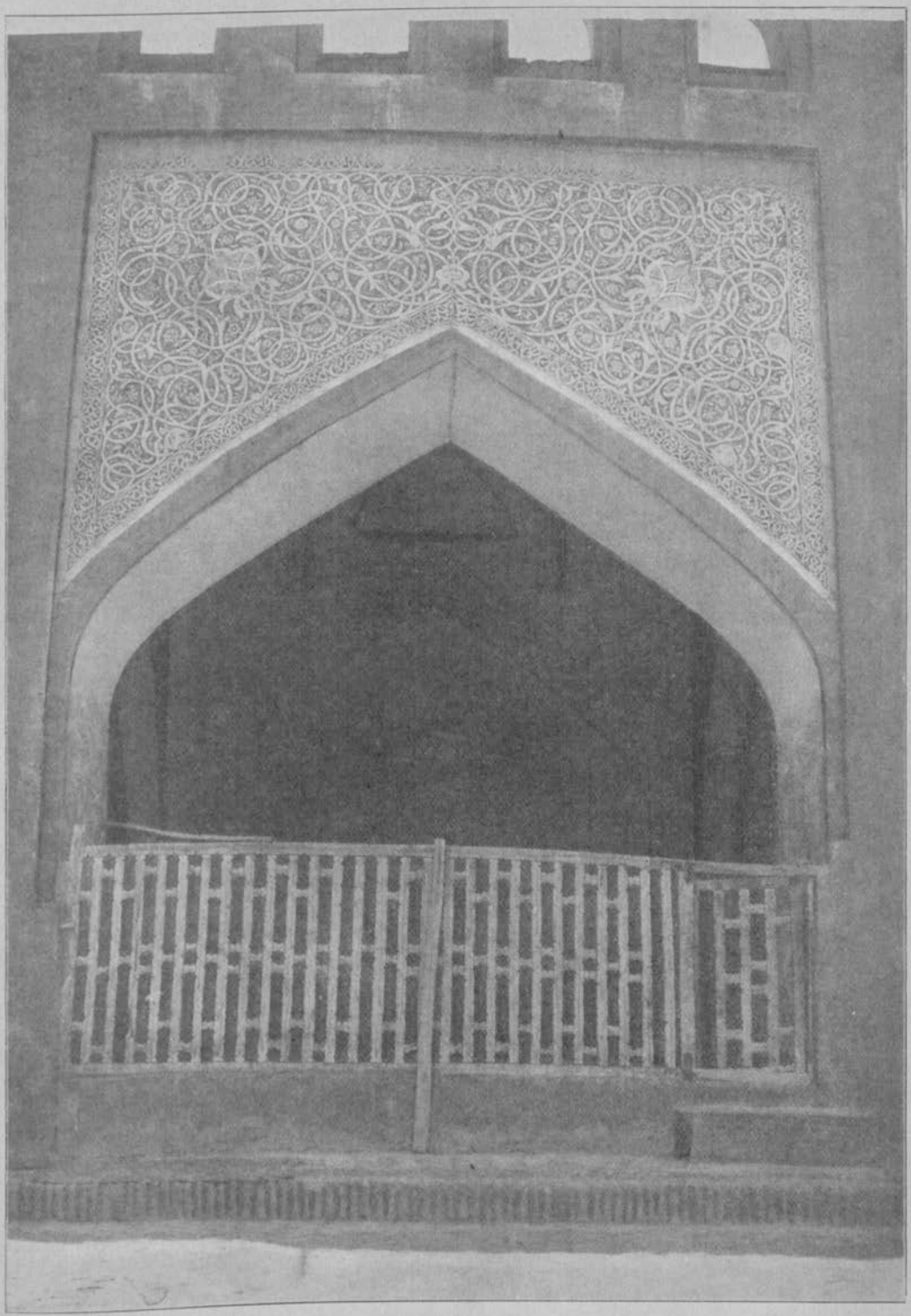
Mosque and tomb complex in front of the gate of Baha-Eddin.

small gift especially from a European, who in the opinion of Bokhara people is sure to be a rich man.

In the valleys of South Pamir where the inhabitants, consisting of old Iranian tribes, have no doubt received their kabrs from the west from Persia over Balkh, the graves are always designated by a low kabr of clay and stone of the form of a broad tombstone; in a few places in Vakhan there are several of the kind, one above the other, thus forming a pyramid. They are often surrounded by a low stone-fence, the entrance being through a wooden door, and over the graves of saints is built a small clay-house decorated with horns of the kiyik and cow's horns and with alam, tokh and kobbá. The kabr is often covered with white cotton-stuff; sometimes flowers are laid on the kabr or wreaths of apricot kernels, strung on cords, and on nearly all kabrs are placed small round, black pebbles. The round, black stones found everywhere in the adane of the mosques, here and there in the sepulchral chambers and on the kabrs must, no doubt, be a reminiscence of the holy black stone in Mecca.

The rectangular kabr is also represented in the mortuary chapel of Dâniâr Khan. The latter is situated just before the entrance of the Baha-Eddin mosque. The whole front is open and adorned with a low and broad porch, covered at the top with the most magnificent blue majolica. The fine, blue, encrusted tiles are here interlaced with spiral lines of conventionally composed white vine and leaves of skilful and faultless workmanship. The figures remind one very much of Venetian art from the 14th and 15th century. The chapel is said by the natives to have been built in the 15th century; but by Dâniâr Khan is possibly meant Daniel Bai, a renowned vizier under Emir Mâsum, and if so, it is from the 18th century; it seems, however, to be much older. The entrance through the porch to the sepulchral chamber is only barred by a wooden railing through which is seen a huge rectangular kabr upon which is fastened an isolated name-plate of marble which is rare on the graves of Islam in Central Asia.

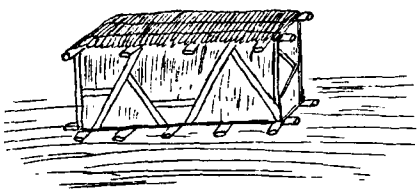
In several settlements on the Amu Darya we find burial grounds which, because they are not kept in repair by the slovenly Mahomedans, are more like refuse heaps from a large store-house than graves. One wooden case is placed here beside the other, some are covered with clay, others broken to pieces, human bones are strewn about on the grounds which are the resorts of the dogs. Where the tree-growth is more rich, instead of erecting a kabr of clay or stone,



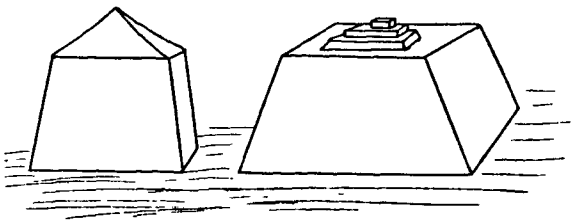
Dâniâr Khan's burial vault in Bokhara.
The splendid blue earthenware with the white spiral lines remind one very much of the Old Venetian style.

a larger or smaller wooden case shaped like a common long packing-case is placed over the grave and covered with clay. The clay, of course, only lasts a short time, and soon these kabrs in which we again find the rectangular shape lie pell-mell.

Instead of the wooden kabr a flat-roofed frame house is sometimes built over the grave. As there are in several places on the Amu Darya great quantities of reeds, the latter are often used for covering the walls and roof of such a kabr. Sometimes there is a layer of mud on top of the reeds, sometimes not. These reed-kabrs seem as little as the box-kabrs monuments to the dead. The reed-kabr is more like a small kelper's lodge, and both the latter and the box-kabr are of a rectangular shape which was introduced here by Aryans who at all times have influenced the culture of Bokhara.



Kabr of frame work with reed-roof on the Amu Darya.



Kabrs from Kirr-adsh-Kirr on the Amu Darya.

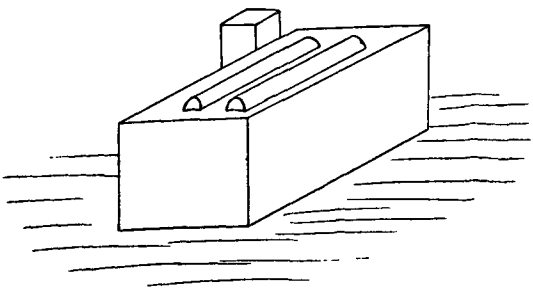
As in the southern Pamir valleys we also find on the banks of the Amu Darya kabrs consisting of several rectangular figures built one above the other so as to form stairs. On the eastern bank of the river, at Kirr-adsh-Kirr on some banks covered with a spontaneous vegetation of salt-worts, south-east of the oasis of Eldjik, there are a great many graves built in this form. Their shape is, indeed, pyramidical; but this is, no doubt, because owing to the bad building material, it has not been easy to make the walls of the kabr perpendicular. The figure shows that some of them rise into a point, probably for the same reason. The latter graves belong to Bokharan Tadjiks who live in the oases on the river.

Connection of the rectangular and the pointed kabr.

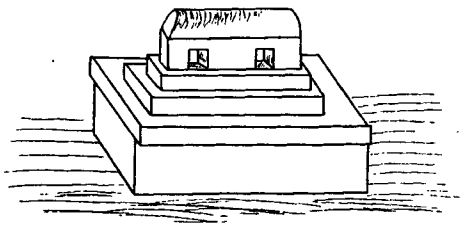
We have dealt with the pointed and the rectangular kabr, and we shall now treat of a kabr which is a fusion of these two forms, being a pointed kabr placed upon a rectangular one. The proportions between the two parts differ somewhat. The base of the

pointed part may be as broad as the surface of the rectangular kabr, so that it looks as if an offset had only been built round a pointed kabr.

Sometimes several rectangular kabrs are laid one above the other in the form of stairs and on the top of these a pointed kabr. We also find a few specimens where a large rectangular kabr is adorned above with two pointed kabrs. I presume that two men are buried beneath the latter, probably two friends, but I have not been able to gather such reliable informations as to this problem that I dare claim that my hypothesis holds good in all cases. It is certain, however, that several persons are sometimes buried beneath one kabr, and regular family vaults are also found beneath such a one;



Rectangular kabr with two pointed kabrs on the top and name-post. (Double tomb).



Special form of a terraced kabr.

this will be seen later on to be the case with such kabrs as differ from the ordinary of which we have spoken here.

This form of kabr is found in the aulia of Hazreti Imâm in the town of Bokhara. The latter, situated in the western part of the town, is remarkable in that the pole, where the black tokh hangs, bears on its top a hand of black painted iron-plate stretching its distended fingers into the air. Such a hand is also seen on the top of a mast with white alam at the altar of the sacred springs in the town of Shund in the Garm-chashma-darya valley in Garan. In Vakhan this hand is often found carved in monumental stones round about the valley, and in the houses of the Vakhans such uplifted outspread hands are drawn on the walls of the hearth-rooms, generally in a continuous series. The latter ornament is simply made by dipping one's hand in flour or lime and pressing it against the wall. The symbolic hand is also seen in some places in Persia, and it must no doubt be ascribed to the Shiitic sect of Islam.

As it is common to build graves or kabrs quite near the graves of prophets and saints, mashits are also frequently built close by or round about such graves.

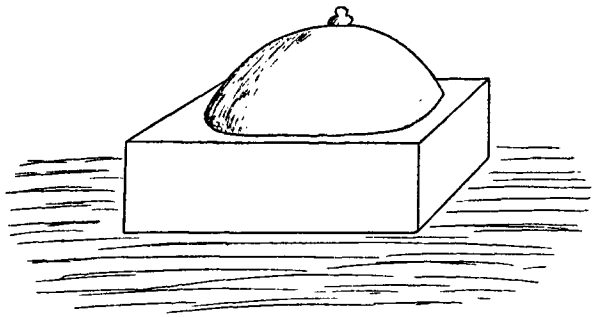
We find a few odd examples of the connection of the rectangular and pointed kabr among the Kirghiz in Bokhara. These consist of several rectangular or quadratic kabrs placed one upon the other in the form of stairs, and highest up is the pointed part. The kabr whose base is nearly always quadratic is also remarkable in that there are holes in the pointed upper part; these holes pass right through athwart and at some distance they are very like windows.

Various peculiar forms of kabrs. Far out in the margins of the large oases, on the banks of the Amu Darya and in remote poor settlements or nomadic places of residence, consequently outside what may be called the centres of culture where the graves are of a fixed style in accordance with the wishes of the ecclesiastics, with tradition and the Koran, we find kabrs whose shape and structure differ from the traditional one. I have found kabrs consisting of a dome-shaped clay-building, some 5 metres high, with an entrance door. There was no kabr in the cupola, but the cupula itself, above which alam waved, acted as kabr. Other like cupolae, built of burnt bricks (kisht) and looking like cupolae of mosques that had been taken down on the ground, were intended for a whole family vault; and on a new member being conveyed hither, some bricks in the cupola were broken loose and the corpse pushed in. With the exception of a small loop-hole looking towards Mecca there was no opening in the cupola.

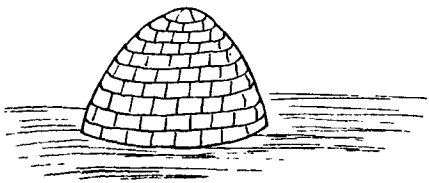
On the banks of the Amu Darya we find kabrs built as diminutive gumbases. (Gumbas is a sepulchral chamber; whether in Khiva, Bokhara, Turkestan or among the Kirghiz in Pamir, it is always typical in the same style, a cubical substructure crowned by a cupola. As a rule there is above the entrance a rectangular porch with a pointed entrance or only a loop-hole looking towards Mecca.) Instead of the gumbas being elsewhere hollow and holding a kabr, the gumbas itself is here kabr and massive. The massive gumbas sometimes has two cupolae as a sign that two, husband and favourite wife or two good friends, are buried here.

One remarkable kabr situated on the Amu Darya was shaped like a large hollow, hexagonal cupola. Above there was a circular aperture and in each of its six sides a square loop-hole. It was

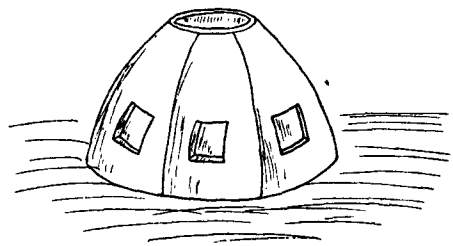
built of encrusted tiles and about 4 metres high, reminding one very much of the baker's oven commonly used in Central Asia. I have only found this single specimen of such a kabr. According to the natives the architect had made so many apertures in the kabr because he was in a doubt as to the direction of Mecca. That the soul might easily get away to the side from which the Prophet would call on the Day of Judgment, he made loop-holes both in



Rectangular gumbas with cupola and kobbá.



Bee-hive shaped kabr of burnt bricks.



Bee-hive shaped gumbas of clay with loop-holes on all sides and upwards.

the sides and on top of the kabr, and then the deceased could face all contingencies with an easy mind.

Both the dome-shaped kabr, the massive gumbas and the last kabr are said to be due to the Kasaks.

Finally several kabrs were built in the shape of a small water-basin of burnt or sun-dried bricks and covered with clay or plaster. This kabr may be both circular and square. One of them, contrary to other graves in Central Asia, ran from north to south so that the head of the corpse was turned northward and the legs southward as prescribed by the Shiah sect. This was, for the matter of that, the only Shiitic tomb found here; but I could not find out whether the architect had also in this case mistaken the

direction of Mecca, or whether the grave was really the resting-place of a Shiite.

The kabr built in the form of a water-basin is commonly used by the Karakalpaks.

Besides the usual earth- or clay-heap, principally employed by the Kirghiz and probably the original form of the pointed kabr, the Kasaks often place the bier on which they carry the corpse to the grave over the kabr itself or at the head of the grave or they erect a name-column at the head of the kabr. The biers are often hung with coloured rags, but it is impossible to see whether these rags are alams or sick-rags, probably both are represented. In remote places one does not seem to be so scrupulous about placing alam on the graves of one's family or about putting a kobbá on the kabr or the gumbas which in the oasis of Bokhara is only done after the matter has been discussed by the ecclesiastics.

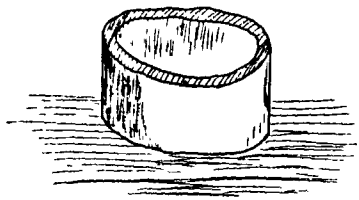
Sometimes a small veranda like a house is built at the kabrs. In this house the relations of the dead now and then come to pray at the grave, the veranda being then an absolutely necessary screen against the very violent summer sun. These verandas add to the townlike appearance of the burial grounds with their many gumbases.

Not only in the oases do the many various forms of kabrs impress a strange character upon the towns, but almost all along the banks of the Amu Darya from Charjuí to the Aral Lake we find real towns of kabrs and gumbases; together with numerous ruins of old castles that are passed by when sailing down the river they are among the antiquities that crave a closer examination.

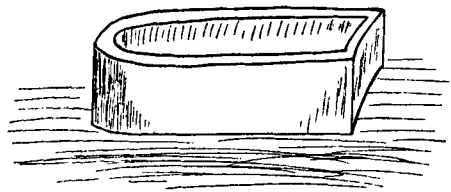
It is a common belief or superstition among the natives that spirits, both those of the dead and the genii of the air are principally found near the graves, and nowhere in these regions is the belief in the spirits and fear of them so great as on the Amu Darya and in the Pamir valleys. As a rule "spirit" is the same to the natives as something wicked, a sort of injurious bacilli floating in the air or hiding away in weird places. The boatmen on the Amu Darya never dared go on shore in the dark near the burial grounds for fear of spirits. Against the spirits most of them had one or many small silver cases containing written Mahomedan prayers sewed on to the top of their caps (kalapush), and on account of the spirits it was often difficult and even impossible in the Pamir valleys to make the natives cross the pass which separated their valley from the neighbouring one, thinking that spirits were astir

in the pass, or that Shaitan himself lived on the opposite side of their mountains.

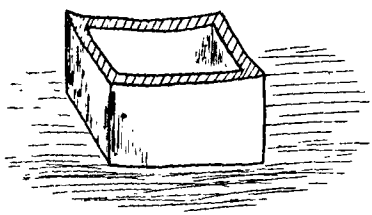
These spirits, djin, adjin or adjina, as they are called, are a remnant of the genii of the Avesta faith, i. e. the newer Avesta faith, who filled the air for various purposes. And as the adherents of the Parsee religion thought that the souls stayed for a certain



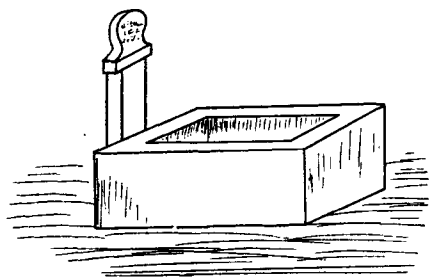
Kabr shaped like a basin.



Basin shaped kabr.

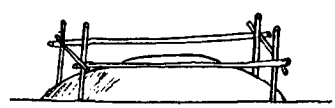


Kabr formed like a basin.



Kabr with name-post (Karakalpaks).

Kasak-Kirghiz tomb with name-post.



Kabr (oblong heap of earth) on which is placed the bier.

number of days at the graves, this is still a common belief of the Mahomedans in Central Asia.

This belief in spirits in connection with a certain cult of curious objects in nature at which both good and evil spirits like to stay has made the natives build here and there a sort of monuments, places of sacrifice, altars or chapels on weird-looking rocks, in deep, dark ravines, in holes, on large stones or at hot springs, where the place has a mysterious appearance or one differing from the commonplace. The spirits haunting caves and ravines are in

many places called dev which is of course the same as the deva (devil) of the Avesta religion. At first sight these monuments are often taken for tombs or sepulchral chambers. The spirits are also the cause of there being lit lamps at the graves and built chirâk-khanáhs, and the custom is a remnant handed down from the Parsee religion, in which light, the worst enemy of the evil spirits, played a great part as the means of chasing them off.

By the resident Tadjiks in the Pamir valleys such places of necromancy or adoration of spirits are called mazar. We find in High Pamir and in the Pamir valleys high cairns, either just piles of stones or in the shape of small towers and chimneys. When a man is taken ill, he thinks that an evil spirit is the cause and probably to mollify the evil spirit and make it remain in some fantastic-looking place he builds a cairn of stones and smears it with fat. Other natives passing by add some stones to the cairn so that the latter becomes higher and higher. Sometimes the cairn is adorned with horns of oxen or cows or tokh and alam; thus it may happen that a small cairn built by some sick, comparatively insignificant individual increases in the process of time, so as to become finally a very holy place about which the present population can tell many stories.

We find these cairns on the top of the passes where some may originally have been erected as sort of sign-posts. Their present decoration shows, however, that their importance has risen considerably above the level of a sign-post; for, as stated above, they are sometimes decorated with alam and tokh, and nearly always hung with sick-rags. It is a common practice that way-farers on passing such a mazar in the mountains kneel down before it and pull their beards.

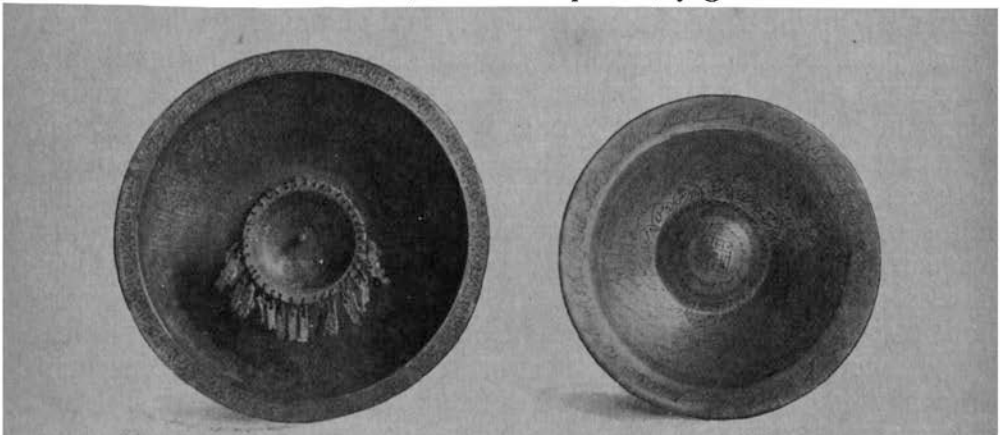
In Arabia they have this same custom of smearing large weird-looking stones with fat if some religious legend is attached to them. Thus it is a common legend that some depression in stones or rocks is owing to angels, prophets or saints having set foot on them and then perhaps ascended to heaven, on which account the place is declared to be holy. The fat is probably a sort of sacrifice. In other places outside Central Asia we find a similar superstition.

It is a common belief that in holes in old walls, in empty wells, under large stones a dev is hidden away. This dev plays much the same part here as puck with us.

The latter kind of holy places is called kadamgâ (footprint) in Bokhara. In Vakhan in South Pamir, for instance, such a footprint

has led to the erection of a stone-enclosure on an isolated rock, rising above the ground on the northern bank of the Vakhan valley; the enclosure is adorned with kobbás hung up on staffs, and thus like the cairn it assumes the appearance of a saint's grave.

In Central Asia, for instance along the eastern bank of the Amu Darya, we find many such kadamgâs or mazars sometimes consisting in a small mud-house where lamps are placed, to be lit by those seeking here some consolation in their distress. As a rule it is built on remote hills or on isolated rocks, and sacrificial gifts in the form of old wooden dishes, wooden spoons, jugs and the like are



Magic dishes of brass. Are placed on the tombs filled with water. They are provided with inscriptions on both sides. The inscriptions (spells and prayers) are intended for driving away certain evil spirits. On the water having stood for a certain period at the tomb it passes for a remedy against various ills and evil spirits. (Nat. Mus. in Copenhagen. Olufsen's Collection.)

spread round about it; sick-rags and alam in wild confusion wave before the wind over the place.

The pointed kabr must no doubt be considered to be the oldest representative of the various kabrs in Bokhara. It is the most common from the west frontier of China to the Caspian and most probably the original sepulchral ornament down to the Islamitic antiquity, and it is difficult at this time to get farther back. The rectangular kabr and the placing together of both these forms are no doubt of Persian origin, as the Persian artisans especially in the 14th century under Timur were the leaders in architecture.

It cannot be stated with certainty how the kabr, the tomb or the sarcophagus have looked in the Pre-Islamitic period in Central Asia. As under Islam the Persian realms have presumably set their stamp on art and industry in Central Asia. Some historians

say that on the arrival of Alexander the Great to Asia Oriental architecture is at an end, its history being blank from the fall of the Achemenides in 331 B. C. to the appearance of the Sassanides in 226 A. D. But it is very difficult to decide which is Parthian and which Sassanide art. The architecture, however, left behind in Mesopotamia and Persia from the period between Alexander the Great and Mohammed, is chiefly Sassanide or New Persian and not older than about 220 A. D. The Sassanides had neither artisans nor models to be copied, and the palace of Hatra in Mesopotamia is therefore thought to be the pattern of their buildings. This country was populated by Arabs, who were the vassals of the Parthians and later of the Sassanides. The palace of Hatra built in a heavy sombre style with many round and pointed niches, porch and without any corridors (doors leading from one room to the other) reappears together with like Sassanide buildings from the 4th and 5th century in the mosques, medresses and sepulchral chambers of Central Asia. It is said that over the graves round Hatra small quadratic buildings were built (base of 20 and 40 square feet), some quite plane, others with pilasters like a sort of ornamented coffins, and we have from the days of the Parthians drawings of their coffins, some of which were like a large slipper and built of burnt clay.

In the Pre-Islamitic period in Central Asia when the religion of Zoroaster was prevalent, the skeletons were probably collected and buried in a tomb as in the western Iranian regions after having first been exposed, and it must then be taken for granted that the tombs had kabrs in a like way as at Hatra. It is possible that the pointed kabr dates as far back as the time of the Avesta religion.

Sepulchral Chambers. All sepulchral chambers or mausolea from the gumbases of the Kirghiz to the most beautiful of this kind in Bokhara are always built in the same style. Invariably a square substructure with a conical, calotte-shaped, hemispherical or pyramidical superstructure. The common Kirghiz gumbas has a pointed cupola because the bad building material in less fertile regions cannot be used for erecting a round cupola. In the latter there is generally but one loop-hole looking towards Mecca, but in the larger Kirghiz gumbases there is often also an entrance adorned with an isolated porch, and beside the door pointed niches and an attempt at adorning the corners of the gumbas with small towers of much the same kind as those placed on the four corners of the mosques in the towns.

11.

AMUSEMENTS AND GAMES

PUBLIC amusements, properly so called, are not known apart from the religious festivals after which sheep and oxen are killed and the flesh distributed among the congregation which, after the religious ceremony itself is over, also comprises the women. The amusement here mainly consists in eating and taking tea, and after the meal some groups gather round those who play on the tambourine, clarinet and guitar. When buffoons or comical actors occasionally make their appearance, they attract a great multitude on the public places. The buffoon, whose assistants call people together by incessant clapping of hands and the cries of: Barakildéh! Jakhshö! is generally dressed up in such a way as to produce laughter, either with a paper hat on his head or shreds of paper sewed on his caftan, or he rides on a hobby; as a rule, he does not intend to represent anything definite. Sometimes, however, the jest contains a certain satire, when, for instance, the buffoon puts on a particular dress of a farangi (European), a Russian (Urus), a Tibetan Lama, a Chinese, a Karakalpak or a Kirghiz all of whom furnish sufficient matter for laughter in the opinion of Bokhara people. The buffoon also often ventures to represent the authorities of Bokhara; such as an old mullah with an enormous beard, a Kasi-kalân with a gigantic turban, a Bokharan officer etc., and these representations reveal a considerable sense of humour, and show that irony is not unfamiliar to these people; a person never made fun of, is the Raïs. On bazar- and fair-days these performances attract a great crowd on the markets in the town or on the maidans; but generally the public enjoys the play very quiet without the noise and hustling that would characterize a European public on similar occasions, and then the assistants of the buffoon collect voluntary gifts in the form of the brass Puls of but small value.

Public readers are seen everywhere, especially in the larger towns. Outside the mosques or medresses they take their stand on the pavement where they begin their recital of Persian fables, Persian poets or the like, sometimes they also read a section of the history of Bokhara, Samarkand or Timur or some saint's legend. Sitting on a small carpet or a mat they deliver their subject in a monotonous voice and pray Allah to yield the number of Puls which have to be thrown to them during the recital. Nearly every afternoon such recitals take place at Bokhara and the larger towns; in the villages the public readers are often itinerant mullahs.

Bear-leaders and itinerant jugglers with monkeys, performing goats, civets or venomous serpents always play their pranks on fair- and market-days; but apart from these there are no public amusements, all other amusements are private, but to a certain extent their character is public, as there is free access to festivals held by private people for as many as the houses and court-yards can hold; in this respect the Oriental is very democratic, and when a rich man makes a festival he takes a pride in the greatest possible number of people coming together; this enhances the glory of the feast and his own popularity.

On such occasions people from the street swarm into the yards of the palaces, press forward to the highest dignitaries, join a nuptial procession in large crowds, throng outside the chaikhanéhs where private bets are settled and come together before a house where the host is enjoying a ziyafat of pillau (pillaf or palau) together with his friends, that they may perhaps get some part of the abundance of the feast. This kind of gatherings always take place without riot or brutal fun which would rarely be the case in Europe, no doubt, and even if now and then youth asserts itself, tranquillity is always easily reestablished by a few words from an older man. Natural tact and habitual training in a quiet and dignified behaviour, and the fact that the festivals are often in the open air, are the reasons why the rich merchant or the Beg or Aksakal of the town, when holding a festival, can entertain the whole neighbourhood; no one is ever excluded. The festival is always arranged on a special occasion, such as the visit of a guest of distinction, the birth of a son, after a circumcision, on a man celebrating his son's or daughter's wedding etc. After the dinner-party during which the remnants are distributed to the uninvited neighbours follows the entertainment proper (tamasha), of which the so-called "At-Tamasha", horse-game, or "Baiga" must be first mentioned.

The younger male guests and those arriving casually without being invited mount their horses and come together on an open place where a fixed distance is marked out by means of some posts (kasik or kâsik) or stones. Between the posts is tied a sheep, a goat or, if the host can only afford a smaller expense, a cock. The riders, who are armed with guns, pass by the tied animal in full gallop, shooting at it from their horses, by the way, a disgusting cruelty to the animal; the rider who kills the latter snatches it up in a hurry, and he now tries to gallop up to the host or the man who is commissioned to be the judge of the combat and throw the animal at his feet. If the fortunate marksman is deprived of his spoil, the next one has only to try to reach the judge of the combat with the animal killed. The animal is not always shot at as recorded here, but is slaughtered beforehand The Baiga is a national amusement everywhere, both among the sedentary and the Kirghiz. Although 100 riders often crowd together into an informal cluster to contend for the spoil, there is never any fighting, and no accidents ever occurred during the many Baigas which I have been obliged to witness.

The host confers a prize upon the victor, the more well-to-do coloured caftans, stuffs or the like; and the races are often continued throughout an afternoon to the great delight of the surrounding assembly who follows them with the greatest interest.

The fights between animals are favourite amusements, thus fights between rams, between cocks (ghurush) and between quails (bedannah). The first are especially national in Khiva where every rich man has his game-rams, but they also take place in Bokhara. On an open place round which the multitude is formed into a square two rams of the fat-tailed race are let loose against each other; the strife is, as a rule, exceedingly fierce until one of the two remains on the field of battle or flees away hissed by the public. The man whose ram has won the game receives the prize offered, and many appear with their ram at the feast of a rich man or Beg to carry off this prize.

At the festivals of the less well-to-do who cannot afford an At-Tamasha or ram-fight owing to the greater apparatus and the larger gifts required, there is only a cock-fight where two large cocks fight within a small circle of guests, or two quails, kept in a cage like ornamental birds, are let loose against each other. Both cocks and quails have been trained for these fights, and to make the affair as bloody as possible long awl-shaped spurs are attached to the legs

of the cocks, and then it sometimes happens that they stick together in a cluster, because the iron of one bird catches hold of the other's flesh. Ram- and bird-fights generally give rise to betting, two by two backing his animal, and Bokhara people are passionate gamblers; many a peasant or merchant gambles away all his wordly possessions on such an occasion. In many tea-houses in Bokhara two or more quails are kept for the use of the guests, and it is no rare thing that a newly arrived caravanbashi (leader of a caravan) who enters a chaikhanéh to have a vessel of green tea and to smoke a water-pipe, gambles away his camels or horses before leaving and is obliged to beg his way home. Games at dice and games of chess are also common in the chaikhanéhs, and of late the European cards have gained access to a great extent; it is not rare for the travelling caravan man to have with him a pack of cards to be used at the halting-places.

The favourite amusement is, however, the dancing boys, the so-called "Batshas" (child), now, at any rate, an immoral institution even if it has not always been so. Batshas are kept by the Emir, the Begs and other well-to-do people in greater or smaller numbers, and from early childhood they are trained to divert their masters by a mixture of dance, gymnastics and song, beating of castanets, all mixed up and always of an obscene character. The dance as a social entertainment is quite unknown, it is a spectacle, and as women are forbidden by the Emir to dance, at any rate in public, and as in the opinion of the Sunnite Mussulman it is improper for women to dance either in public or private, boys are trained for it. When young they are spoiled, and later on they generally lead a dissipated life. The batshas of the Emir and the Begs now and then make their appearance on public places on festive occasions, but this kind of amusement thrives most within doors in the palaces and their court-yards and particularly in the evening by lamp-light. It is commonly said that the Emir and many others have both female and male harems, even the spiritual mullahs deny themselves nothing in this respect and the raging desire for dancing boys goes so far that less well-to-do keep a troop of batshas between them, or they plunder and murder to be able to procure a dancing boy. Parents often sell their boys to let them become batshas, then their future is secure, for many a favourite batsha obtains a good public office when he gets old.

In Bokhara and Khiva I witnessed many performances of batshas; their number varied from one in the houses of subordinate

Part of the batshas and musicians of the Emir repeatedly making their appearance with us in our quarters in Iiti-khanéh.

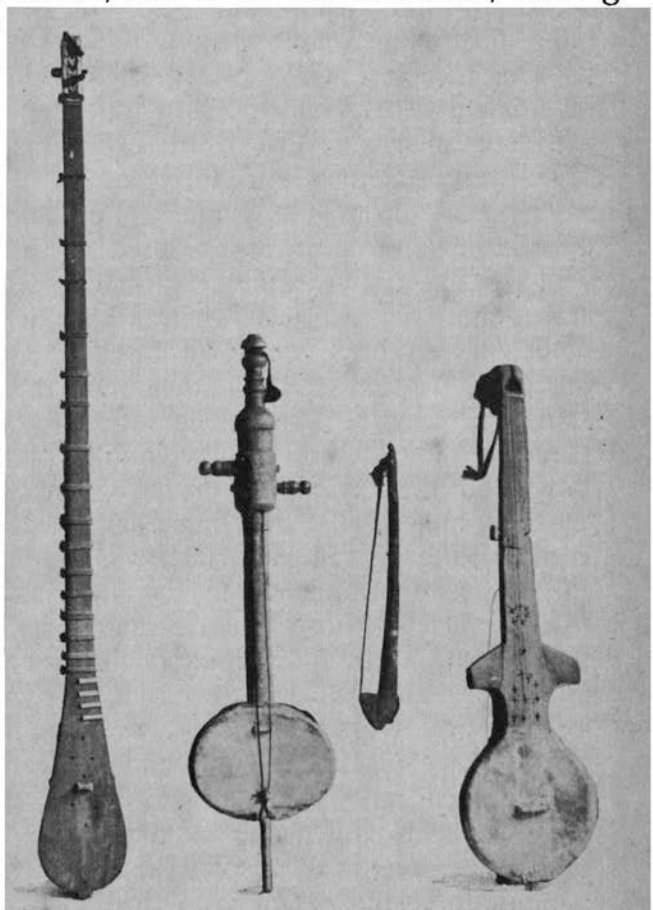
Begs to 10 and 12 in the palaces of the Emir of Bokhara. The style of the dance was the same always; from a sedate walk in a circle they passed by degrees to wild dances and antics, intermixed with song and yelling and a sort of stomach dance or sexual gestures illustrating a love-scene.

One evening while I was staying in the palace of the Emir, Ilti-khanéh at Bokhara-i-Sherif, such a dancing troop of ten boys with six musicians arrived by order of the Emir to entertain us. They were solemnly introduced to me as the performing artists by an emissary from the Emir; lamps and lanterns were lighted in the palace-yard, and carpets were spread all round along the four wings of the palace, and the musicians with clarinets (surnai), drums and guitars (ribâb) took their seats in a row with a chafing-pan before them above which drum- and tambourine-beaters, practising on their instrument with their fingers alone, warmed the drum-skins in order to stretch them tight. We sat down on the clay-platform, and before the beginning of the dance the batshas sat down on the ground in front of me. All of them had this unpleasant mixed look, half man half woman, or to put it more correctly half boy half girl, which was disgusting to me, but conveyed the opposite impression to the great assembly of both higher and lower officials whose eyes, beaming with delight, told plainly of the pleasure they now looked forward to. All the batshas wore red, loose caftans, wide trousers, all were bare-footed, and their longish hair was hanging down their backs. They were served with pastry, sweetmeats, fruit and tea while the music in which the drum played the principal part began. It was curious to observe the zeal with which the Bokhara men, and even an old Beg of high rank sought to display their high esteem of the batshas by handing refreshments now to one and now to the other.

After the refreshments the batshas rose and began to walk round one after the other in a circle on the carpets, first quite sedately, with lifted hands, rocking with their hips and beating time with castanets. The measure became quicker by degrees, they began to sing a song whose subject was the love of two girls personated by two of the boys; then the beloved answered the song of their lovers, and dance, howl, jest and antics now became absolutely wild, representing passionate over-excitement. The musicians drummed and fluted a regular devilish music, the spectators chimed in and applauded, servants ran about with lamps and candles which they held up before the faces of the batshas, that they and their mimics

could be admired, until finally the noise stopped suddenly, and the dance was at an end. In spite of the grotesque amusement there was, so to speak, a red thread, not to be misunderstood, running through the dance which the boys made their best to perform gracefully.

After a little rest and repeated refreshments among which at last a vessel of opium in water, the next dance commenced, performed in the very same way, until it was finished at my hint; it is common practice that presents are given to each of the boys which they receive very arrogantly, being conscious of the importance of their art; for to give a present to the batsha or offer him a vessel of tea is in Bokhara regarded as a great honour. The givers feel happy on the batsha receiving the latter and especially if he gives back the remainder of a drink, but exceedingly unhappy if the batsha rejects the drink or the gift.



Three sorts of stringed instruments used in Bokhara. As a rule they are made of apricot wood. The instrument farthest to the left (tamburr) has brass strings, the next one two strings of horsehair to be rubbed with the bow; the instrument to the right, ribâb, is like the central one covered with a stretched skin, the strings being as a rule of gut, but also partly gut and brass. Tamburr and ribâb are played like a guitar. Nat. Mus. at Copenhagen. Olufsen's Collection.

A favourite amusement with the Kirghiz and the Usbegic nomads are races which take place on an open plain, and where they only try to cover a certain distance as fast as possible; they do not know steeple-chase. These races do not give any very high opinion of the horsemanship of the inhabitant of Central Asia as regards quick pace. In this respect they cannot get the most out of the horse, and it is impossible for

them with their short stirrups to have a firm seat, if the horse increases his pace. At a race which I arranged with some Usbegs and Kirghiz I rode on a common Kirghiz horse equipped in European manner and covered the distance before my companions had got half-way, a great many of them had fallen off the horses who tried to follow mine of their own account. They are only masters in riding for days or weeks at a quick step or gallop.

Another and more entertaining race is the so-called Kyz-kavu (girl-chase), arranged by Kirghiz and nomadic Usbegs. Some girls mount and begin a sort of race with a corresponding number of young men. One of the girls advances on her horse pronouncing teasing and jocose words to the young men or, to put it more correctly, to one of them; for she always addresses herself to a particular one for whom she has a fancy. Then she dashes across the plain with a rider in pursuit who tries to capture her while she, often feignedly, tries to avoid him; she sometimes defends herself with sound blows of the short, but dangerous whip "kamtshé". If it is not the rider by whom she wants to be pursued, it sometimes happens that she chases him back to those assembled, who receive him with scorn and laughter; and the man cannot defend himself by blows, as this might easily bring him a sound drubbing from the other men. But if it is the rider desired or one physically superior to her, he takes the girl on his saddle and, kissing her, rides in triumph with her before the multitude assembled on the place of festival. On such occasions music of drums, karnai or surnai, generally resounds across the plain when the ride begins or it ends with the capturing of the girl.

I have not had an opportunity of witnessing a game spoken of by Vambery as very common among the Turkish nations and consisting in throwing several collar-bones of the sheep into the air, then those assembled bet whether the bones will fall with the flat, curved or edged side upmost. The Tadjiks in the Pamir valleys have a favourite game which consists in throwing a certain number of pointed bone pegs into the air and then laying a wager which of them will be able to make most pegs stand on end; it is carried on both by grown-up people and especially by children. The principal toy of the latter are, however, earthen balls, of the size of a small gum-ball, made by the potters and used for all sort of jests.

12.

DISEASES, THE SICK, BEGGARS, PHYSICIANS, DENTISTS, MEDICINE-MEN, APOTHECARIES

As all work is performed as far as possible in the open air, such as trade, handicraft, financial operations, prayer etc., it is comparatively easy to form a notion of several phenomena in Bokhara, thus also of the various diseases and their cure, but of course only as far as the men are concerned. Blood-letters, cuppers, dentists, medicine-men, mullahs, rishta-drawers perform their operations on open spaces or outside the houses, and the sick who are given up by themselves or the native physicians take, as a rule, their stand as beggars in the open air both summer and winter, or else they resort with their last strength to the saints' tombs to obtain relief, if possible, or to die in the holy place. Bokhara people do not like to be treated by European physicians, excepting a few men who seek their advice, but a Bokharan woman will very seldom permit a European physician to examine her, this being contrary to the laws of Islam. In this respect, however, the nomads and townspeople differ a great deal; the former are generally more emancipated and less bound by religion than the latter; therefore the nomads often apply to the European for medicine. One may ingratiate one's self very much with the natives by helping them, but, as a rule, they look upon European medicine with a certain scepticism, not because they do not believe that the medicine (dorré) will have a good effect, but because they fear that other inconveniences will arise from it; an infidel is namely always considered to be on too friendly terms with Satan (Shaitan), and some evil is sure to be connected with his wares. In the towns the spiritual mullahs do what they can to prevent the sick from consulting the European or applying for his medicine, the native apothecaries and medicine-men doing their best too, of course, out of regard to their business. Bokhara

men of the most cultivated classes who have travelled with me for months and years, and whom I have often cured both for fever and typhus have, after repeated cases of sickness, again consulted a mullah and got some scraps of paper to fasten over that part of the body where the disease had its seat, or instead of using my salve they touched the suffering place on their body with a piece of their caftan, and then they placed the rag on a tree or in a saint's tomb. There is a European dispensary at New Bokhara whose proprietor for many years, Mr. Reinhardt, is known by all travellers for his amiability and readiness to help, and he has established a small dispensary at Old Bokhara, the only European house found in this town when I visited it, but still most of the natives resort to their own medicine-vendors in the bazar, and in the other Bokharan towns there are neither European physicians nor apothecaries. Surgical treatment is looked upon with still more distrust than the medical, and an amputation of a limb is quite impracticable, for if, for instance, a leg is wanting, they will not be able to rise on the Day of Judgment. Use of the knife is, on the whole, contrary to the Arabian medical art whose directions are still mainly folloved.

One of the most ordinary Bokharan diseases is rishta, from which about one third of the population of the town of Bokhara suffers. The word rishta is known by all visitors of Bokhara, and it may well be said: Woe to him who has not heard of it before visiting the town. The rishta (filaria medinensis or bokhariensis) is a cutaneous worm which is thought to come into existence in stagnant water under warm climatic conditions, and no place is certainly better adapted to its thriving than the dirty,' filthy ponds in Bokhara. The eggs are presumably hatched here; for on drinking boiled water one avoids it, but even washing the hands and face in unboiled water is unadvisable, and the articles of food ought to be boiled thoroughly, in order to avoid it.

The worm itself has not yet been discovered in the water, even with a microscope. With the drinking water or unboiled articles of food it enters the body and on developing here it becomes visible as a long white, cylindriform thread below the skin. On some places on the body, especially on the legs, it begins to itch, (if it is in the head, the disease is still more pernicious), then a red spot appears on the place injured, an abscess is formed where the head of the worm is, and acute pains accompanied by fever set in. The Bokhara man now applies to his barber, who cuts the abscess and squeezes the head of the worm with a small instrument on which

he unrolls the worm like a roll of twine. If the operation succeeds which it does very often owing to the expertness of the barbers, the disease is over, but if the worm is broken, the evil continues, an extremely painful inflammation sets in, and continuous operations must be performed. Bokhara men often walk about with up to 10 and 20 worms in their bodies and sometimes about half of the inhabitants of Bokhara are said to have rishta which makes a stay here rather unpleasant.

The European who always drinks boiled or destilled water generally avoids this disease, but it may happen that someone or other becomes infected with it in which case its occurrence is presumably due to the food or washing with unboiled water. Sometimes it does not appear till half a year after he has left Bokhara, and as European physicians do not know how to draw it out, foreigners have been obliged to go back to Bokhara to be treated by a native barber. The operation leaves a scar which may disfigure the face very much, and the frequency of the rishta is clearly shown by the many disfigured faces observed in the town. The rishta is rarer at Kermineh and Karshi than at Bokhara, but it lives, no doubt, everywhere in the Bokharan ponds; a thorough and more frequent cleansing of the latter would result in its extirpation. Owing to the canalisation of Turkestan which has been accomplished by the Russians it has decreased very much in number here, and in Tashkent, for instance, it is very rare. We never heard of the rishta in Mountain Bokhara or Pamir, presumably because the inhabitants generally had their drinking water from the running rivers and brooks where the rishta cannot live.

The rishta is possibly connected with the legend of the Prophet Job who according to Bokharan legends is buried beneath the sanctuary, Aulia Ayup Paigambar. A few natives related that it was the rishta that plagued Job, eating his clothes and flesh, others that it was another kind of worms with which God punished him; two of these remained behind, but one went into the water and became the progenitor of the leeches, and the other one crept up into a tree and became the progenitor of the silkworms. The rishta is possibly also connected with the legend which tells how Shugnan became peopled: In Balkh there was a large realm governed by a mighty Khan. A terrible disease befell this Khan, in that two worms grew out of his shoulders, only their heads projecting, whilst their bodies remained in his body. Two holy men were called in to cure this disease, and they advised him to feed the worms on

human brains. This being done, the worms disappeared for a time, but returned again. A third holy man was now called in who advised that the worms should be fed partly on dog's and partly on sheep's brains, and the worms disappeared for ever. The two holy men who were first called in were now afraid, they would be beheaded and fled into the mountain valleys of Shugnan. The Tadjiks in Shugnan are said to be their descendants. The legend suggests that the old historical realm in Balkh has known the rishta, and that the valley realms of West Pamir were peopled, at any rate the more southern, from the old Bactria.

Next to the rishta there is hardly any disease with which Bokhara people are inflicted to such a degree as diseases of the eye which are as typical of Bokhara as the loess dust. Statistics of Bokhara are wanting, but I dare after my long stay in the Emirate give an estimate of the numberless blind, one-eyed and people with diseased eyes living there. About every tenth man has diseased eyes, and of these at least one fourth part are blind of one or both eyes. Many are blear-eyed, in others one eye or both are quite gone or they have specks on the cornea, trichiasis, the eyelashes turned inwards or inflamed eyes.

The causes of the diseases are many; small-pox rage every second year in Bokhara, and the survivors' eyes are generally injured, add to this the climatic conditions and the total want of hygiene. People wash themselves very little in the Emirate, and if they do, generally in the stagnant ponds and pools; even the running water is, as a rule, clayey from the loess and not adapted either to drinking or washing before it has been filtered. Moreover many think that bad eyes ought not to come in contact with water.

From a climatic point of view summer is the worst season for the eyes. The enormous heat, the dryness of the air, the glaring light, the loess dust which is often mixed with salt, is an awful enemy to the eyes, for which reason the disease is much more widely spread in summer than in winter. Further, the streets in the towns are too narrow, the habitations badly ventilated and rarely well cleaned. The turban (sallá) or the small round cap below it (kalapush) does not shelter the eyes of the men, being without a brim, and the dense veil worn by the women before their eyes shelters, indeed, from the sun, but it heats their faces and makes the transition still worse for their eyes when they take it off in the yards. Moreover these veils are never cleansed and therefore always infected. The natives blacken their faces below and above their

eyes, wash them in green tea or warm milk if they do not use the drops or decoctions of herbs of their own apothecaries which are, as a rule, nothing but humbug. For most people a slight inflammation will in time result in the loss of sight.

The many blind often walk about in the streets by themselves, and are, strange to tell, rarely driven or ridden over, as they, owing to their great local knowledge and expertness in clinging to the walls, understand how to avoid the danger. Often they only go out at night, or they are during the day led about by their relations. Some beg continuously in streets and corners of streets or on the roads, others are able to maintain themselves in spite of want of sight. Thus many blind are shampooers, shampooing being an old cure in Bokhara which is rationally used, not only in the baths, but also at home, for instance against rheumatism and stiff limbs and to counteract the want of exercise. Others serve in the workshops of smiths and turners where from morning till night they turn the wheel of the turning-lathe and thus replace the European motor.

After the arrival of the Russians diseases of the eye are said to be on the decline, because some natives apply for European help, but as the latter can only he obtained near the capital itself, their number is minimal, and these diseases are still a very sad phenomenon in Bokhara.

Besides small-pox, cholera often rages in Bokhara following the caravan routes, and epidemics of measles often make a great inroad upon both children and adults. Against small-pox they have an old Arabian medicine, but, as a rule, nobody is able to diagnose the disease. Thus once I put up for the night in a village where about half of the inhabitants lay wrapped up in blankets on the platforms before the houses, being down with small-pox; but none of us knew what the illness was. We gave them some quinine, and, fortunately, we did not carry the disease along with us.

A country where hygiene is absent is always infested by leprosy, lepra, and this is also the case with Bokhara. It rages to a sad extent at Bokhara, Shahrsebbs and Hissar, but I have also met with many cases all about in the Emirate, both in East Bokhara and in the Bokharan Pamir valleys where, for instance, the village of Nut in Ishkashim was the seat of a regular colony of lepers. The natives call the disease mukhau, méhau or makau, and among those afflicted with it, or who have inherited it, are also persons born without hairs on eyes or the head. The lepers have their

own quarter in the towns, and in the town of Bokhara they have their own mosque, bazar, bath and medresse. Here they live their dreary life outside the town-walls, marry one another and, begetting children, propagate the disease. Nothing can be more uncanny than this lepers' quarter. Many have running sores all over their body, in others nose, ears or eyes are gone, in others parts of the limbs have simply fallen off or are covered with large swellings. The prohibitive system does not help very much against the spread of the disease, at any rate not in the way in which it is carried into effect in Bokhara, as the sick are allowed to beg in places and streets where they easily come into contact with the sound population. A disease that is called pies by the natives and which makes the skin lead-coloured, is certainly a kind of lepra. It begins with a spot which spreads all over the body; it is very contagious and ends in death. Both people afflicted with pies and with makau live in the lepra quarter which at Old Bokhara is situated north-east of the town and is called Gusar-i-Piesan. The disease is looked upon as a punishment inflicted by God wherefore the sick person is considered to be a wicked individual.

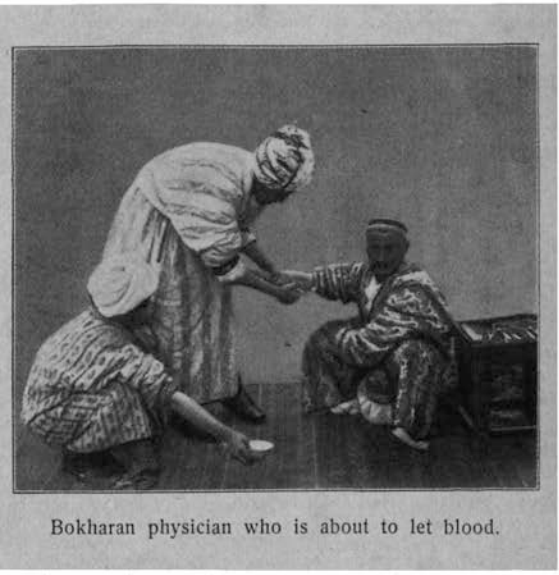
Lapsha, a disease which begins by the loss of all desire for work and ends in collapse and death, is no doubt consumption (phthisis). It is not rare in the towns but is never observed among the nomads. The women especially are afflicted with it and, on the whole, with affections of the lungs owing to their rarely taking exercise in the open air, but pass their time in the unhealthy, unventilated houses with generally the bare ground for floor.

Syphilis is, strange to tell, not very common in Bokhara, whereas the foreign visitor at Khiva ought to be very cautious in his intercourse with people on account of this contagious disease. In Bokhara it is cured by their own physicians by means of mercury as in Europe, but its course is said to be much more dangerous here than in Europe.

The fever already dealt with under the climate often has a typhoid form of malaria, typhus also occurring likewise as diphteria. A disease, called sibilisha by the natives, and consisting in vomitings, often for half a year, and ending in death is well known. Bronchocele is also very common in the mountain valleys and especially in Russian Turkestan. It begins with a tumour on the neck below the chin, so that at last a large bag hangs down on the breast, as in a cropper, head and breast becoming often simply continuous. Many natives are seen suffering from this bronchocele, and although

they can live several years, it shortens life very considerably, principally because no effective medicine is known to combat it. Is it a sort of cancer? I wonder. It is frequent and always in certain fixed places, whilst it is never found in other regions.

As the men always lie or sleep on the bare ground, on the platforms or the flat roofs in the villages, most of them are afflicted with gout, rheumatism or ischias which, as ophthalmic diseases, is a typical Bokharan disease. Many young mothers die for want of able midwives, and many children perish from acute stomachic catarrh and epidemic diseases. Rickets is common with the children who often present a sickly appearance.



Bokharan physician who is about to let blood.

Apart from the diseases treated of here there are lighter vulnerary diseases whose origin is, no doubt, due to a wound occasioned by blows or stings of insects, which has become infected in the warm climate. Eczema, open or running sores are so common in Bokhara that about every other person is infested with them, especially in the larger towns, less in the country. Many people are harelipped and many are seen with split upper lips where the white teeth are seen through the red fissure.

Congenital cripples are rarely seen in Bokhara. Dwarfs and hunchbacks are met with and are, as a rule, professional beggars; I have seen such beggars at Old Bokhara. A cripple is never turned into ridicule, even by the worst street-boys at Bokhara who sometimes are rather annoying. Pity for these is common in Bokhara, as for other sick people, and everybody is ready to offer them an alms, but, on the other hand, there are no public measures to meet illness and want; everybody must help himself as he best can.

Physicians in Bokhara are barbers, the native apothecaries in the bazars, wandering medicine-men selling herbs etc., and the spiritual mullahs. The cures are performed in the open air and in the towns amidst a large crowd of spectators. If a man is to be bled,

or a rishta is to be drawn out, people crowd round the physician and the patient, whilst the flat roofs in the neighbourhood are covered with the curious.

The barbers who shave the heads of the men as soon as the hair has grown a little, and cut the full beard which is the pride of every Mussulman have like all others their own quarter in the town in the bazar or near the latter; their shops are, as a rule, situated beside the ponds where they can easily get water for the operations. Thus the banks of the well-known pond, Labihavs-i-Divambegi, at Bokhara are equally distributed among a collection of tea-houses, fruit-vendors, gupsar sellers (water-bags) and barbers, and from all these businesses the one lot of refuse after the other goes down into the pond where the natives wash themselves and have their drinking water. The worst mockery of all hygiene is, however, the presence of the barbers beside the pond as the bleedings performed by them here are legio, and the blood runs from the shops and forms regular brooklets before it disappears into the pond. The row of barbers' shops, soiled with blood, look more like butchers' shops than the latter in the bazar.

But these businesses have been grouped here with practical purposes in view. After the work in the bazar the natives hurry down to the pond to wash themselves before visiting the neighbouring mosque to pray or hear a reader, or the chaikhanéh to have a vessel of tea and play at hazard, or to have their heads shaved or beards cut, and if wanting a water-bag they can fill it with water from the pond. The tea-houses have water enough for the samovars and the water-pipes, and the indispensable fruit or melon taken with the tea is bought from the fruiterers who clean their articles in the ponds.

Bleeding is so common in Bokhara that most adult men go through this process once a month. It is especially employed against headache, and when they feel in any way oppressed, it is generally believed that they have too much or bad blood which must be tapped off; the bleeding is performed on the affected part in the head or on arms and legs. If this cure does not help, the next thing is to go to a spiritual mullah who sells some prayers or passages from the Koran written upon scraps of paper. The latter are attached to a string and fastened over the part where the disease has its seat. On a native lifting his turban for a moment in the summer heat, his head is often seen to be crowned with this ornament of scraps of paper.

At the same place where the barber performs his bleeding and draws out rishtas, some dentists or tooth-drawers have generally taken their stand. Dentistry in the European sense of the word is out of the question, only tooth-drawing is known, and as the latter is only performed as the last resort, the number of tooth-drawers is not great. Their equipment consists of two wooden stools; on one of them is the primitive forceps, and on the other an assistant takes his seat; the patient sits down on the ground, his head is squeezed between the knees of the assistant, and the master stands behind the assistant, puts his arm with the forceps across the shoulder of the latter into the mouth of the patient, and squeezing the forceps he pulls, using his arm as lever and the shoulder of the assistant as point of support. The whole arrangement, in spite of its ridiculous appearance, is not so bad. The tooth-drawing always collects a numerous audience who looks forward with delight to hear the cries of the patient whose pride it is to repress all signs of his pain.

The native apothecaries or medicine-vendors who have their own street in the bazar and the wandering medicine-vendors are at the same time physicians who have, of course, medicines in the form of powders, drops and herbs against all diseases. Many of these are excellent if they were only employed in the right way, but in most cases the medicine-vendor cannot define the nature of the disease, and then the cure gives no result or is even injurious. Besides mercury against syphilis, quinine and a few salves due to the Europeans, abortive medicines are those best known by the Bokharan medicine-men and are employed at Old Bokhara to a great extent.

But the superstitious preventatives against all kinds of sickness are of greater importance than the medical or surgical cures, and mullahs, quacks and wise women therefore do a good business. As a safeguard against evil spirits with whom the air is always full and against all diseases the men wear in their cap or on their clothes small silver tassels containing written copies of prayers. The married women wear the same tassels (doppé) on their breasts that the milk may become good and healthy for the child. Children always wear small triangular linen tassels on their shirts in which are kept written copies of prayers and passages from the Koran. The blue lapis lazuli and the turquoise both of which are found in the Bokharan mountains protect against the evil eye and are therefore fastened as an amulet round the neck of the children and used for rings

and trinkets. The mullahs in the mosques sell pieces of dried bears' hearts and horns of snakes, for they believe that there are horned snakes which protect against all evil. If an evil spirit has taken possession of the Bokhara man and produced an illness which may easily happen as the air, several rivers, rocks and weird-looking places are full of numbers of the so-called div or dev or adjin (adjináh) (djin = spirit), the sick man goes to a saint's tomb to pray for liberation from the spirit which torments him in the form of rheumatism or other sickness, or he buys water from the holy springs near the tombs, tears a piece of his clothes and places it under a stone in the saint's tomb, and thus hopes to hold the spirit bound there, or he touches the sick part of his body with a rag of his clothes and ties it to a tree, one near a saint's tomb being preferred. If then the tree keeps fresh, he will recover, if it dies, he, too, will die from the disease.

Old wise women who make their patients leap across fire are still known in Bokhara, and the custom which is handed down from the Avesta period is still rather common in spite of the indignant protests of the ecclesiastics.

When we remember the mediæval conditions which are on the whole prevalent in Bokhara, and especially that regular provision for the sick and poor does not exist, it is no wonder that thousands of beggars are seen everywhere in the streets, in public places, on the caravan roads, at the saints' tombs, outside mosques and medresses. There are regular companies of beggars, who have their fixed stands year by year, and female beggars are unveiled. On the roads between Karakul, Kermineh, Karshi and Bokhara beggars are seen everywhere, all of them sick, or blind; here they often sit without any shade, exposed to the heat of summer or the cold of winter. Automatically the old blind man or woman or the leper stretch out their wooden vessel for "silou" (tips) on the traveller passing by their stands, and if one happens to pass by ten times in the same day, the cry of "silou! silou!" is always heard, for a faranghi or ferenghi (foreigner from Frank) in particular is to them the same as a rich man. A small boy is the assistant of the blind, taking care that the money reaches the vessel and handing him his food which mostly consists of melon, dried fruit and a little bread. In the oases beneath old mulberry-trees or elms or in the niches of the mosques colonies or families of beggars are often met with who rush out upon those passing by with their wooden vessels amidst cries and prayers. If the traveller does not give a sum of

money that is thought to correspond with his outer appearance, all the abuse they can lay tongue to will be heaped upon him, "âm mingasky" is the worst, but also Kafir! (infidel), It! (dog), Dongus! (swine) is heard.

Most of the beggars are sick unhappy people who make a very sad impression in the sunny, richly coloured country, but many idlers join the beggars, especially at the mosques, to share in their fairly lucrative business; for Bokhara people, both Usbegs and Tadjiks, and especially the former, are not devoid of better feelings; they always give a few Pul and much is not required to maintain life, a penny or twopence a day being more than sufficient.

On ascending from the level country into the mountain towns or mountain villages sickness, begging and misery decreases very much, and in the Bokharan Pamir valleys one very seldom meets with sick people, apart from those suffering from fever, bronchocele in a few places and lepra which has been imported from other regions. The climate is so healthy here that there are no diseases of any importance, and if now and then an epidemic rages in these mountains, as, for instance, in East Bokhara, the disease is sure to have been carried hither by the travelling caravans.

13.

ARTICLES OF FOOD AND NARCOTICS

AMONG the articles of food of the Bokhara people vegetables decidedly take the front rank; in summer many eat nothing but bread, fresh fruit, melon, a little rice and then tea or water, on journeys the natives bring along with them dried fruit, especially raisins, apricots, pistachios, mulberries or mulberry-flour, or else a bag with fresh melons; and in winter the fruit stored and dried on the roofs are also of great importance. Only meat (gusht or gosh) of sheep or game is considered properly eatable, moreover, they eat a great deal of horse flesh, but the consumption of flesh in the oases is not great, and even with the nomads and half-nomads who have lots of cattle, meat is no everyday dish; they generally content themselves with milk food to which they add a little flour, fat or butter which is kept in bladders, curdled milk, kumysh, with which they eat new bread. Beef is hardly ever eaten; they use the milk for butter and cheese, and the latter is rather good with the nomads, but bad in the oases, here the oxen are employed in the field to labour as long as they are able to hold out, and the meat is, as a rule, uneatable when at last they fall by the axe. The higher one gets into the mountains, the more eating of flesh increases owing to the rougher climate, and goat's meat which is only eaten by the very poorest in the plain, is a common dish here.

The natives are very fond of fat; meat dishes, pillau and even milk dishes swim in fat, and they drink a decoction of fat with great relish. Spices are used in abundance, especially such quantities of pepper, Guinea-pepper, cloves and cinnamon that in the long run a European palate can only with difficulty stand it. Sweets, sugar, crystallized sugar-candy, white sugar, but especially

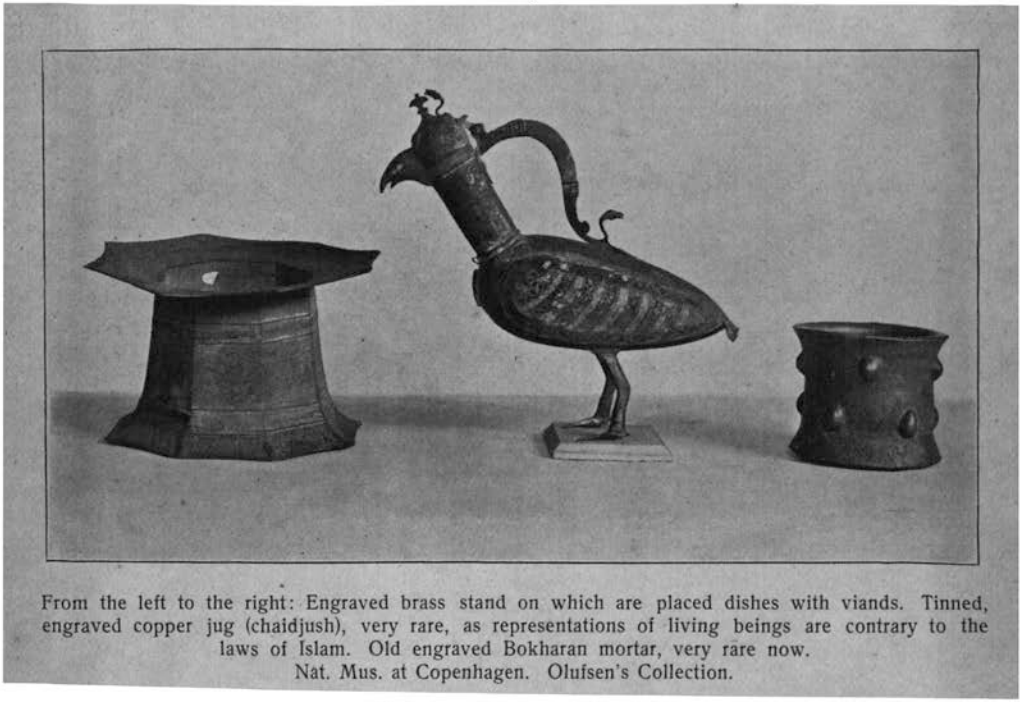
all sorts of confectionery are a favourite dish with everybody, both children and grown-up people, and are never wanting at a genteel meal.

As furniture is unknown, the meals are served on the floor on a piece of coloured cotton or with people of quality on silk carpets

Velvet carpet embroidered with coloured silk on which tea is served up etc. Nat. Mus. at Copenhagen. Olufsen's Collection.

specially embroidered for this purpose. The wooden dishes and the tinned copper dishes are placed here with their reeking or cold contents, the bread is piled up in heaps, and the whole service is surrounded by dishes with confectionery and fruit. The natives sit down on the ground round the meal, stroke their beards and help themselves from the common dishes; before the host, however, begins to eat, he breaks the loaves, offering them to his guests, and if he wants to honour them specially, or if they are of higher rank

than himself, he does not begin to eat until his guest of the highest rank asks him to do so, this is considered a very great act of attention. If a European wants to make himself respected by a less kindly host, he had better let the latter put off eating until he has finished himself. Eating implements are unknown; they use, indeed, wooden spoons with long handles, but these are intended for ladles, and the natives cannot easily help laughing, if the European makes use



From the left to the right: Engraved brass stand on which are placed dishes with viands. Tinned, engraved copper jug (chaidjush), very rare, as representations of living beings are contrary to the laws of Islam. Old engraved Bokharan mortar, very rare now.
Nat. Mus. at Copenhagen. Olufsen's Collection.

of such an instrument. All more solid dishes are eaten by the aid of the fingers, the natives being exceedingly expert in doing so. For this reason the flesh must, however, be boiled very tender, as it has to be gnawed from the bones. Soups and other liquid dishes are drunk from the vessels that pass from mouth to mouth, and the balls cooked in pepper and swimming in the soup, or the pieces of meat swimming in the fatty sauce are fished out by means of a piece of bent bread. After the meal a servant goes about with a water-jug (aftâbá) and a basin and pours water over the guests' fingers which are wiped in the cloth. Then tea is passed round in Chinese vessels (pialal), and then all stroke their beards

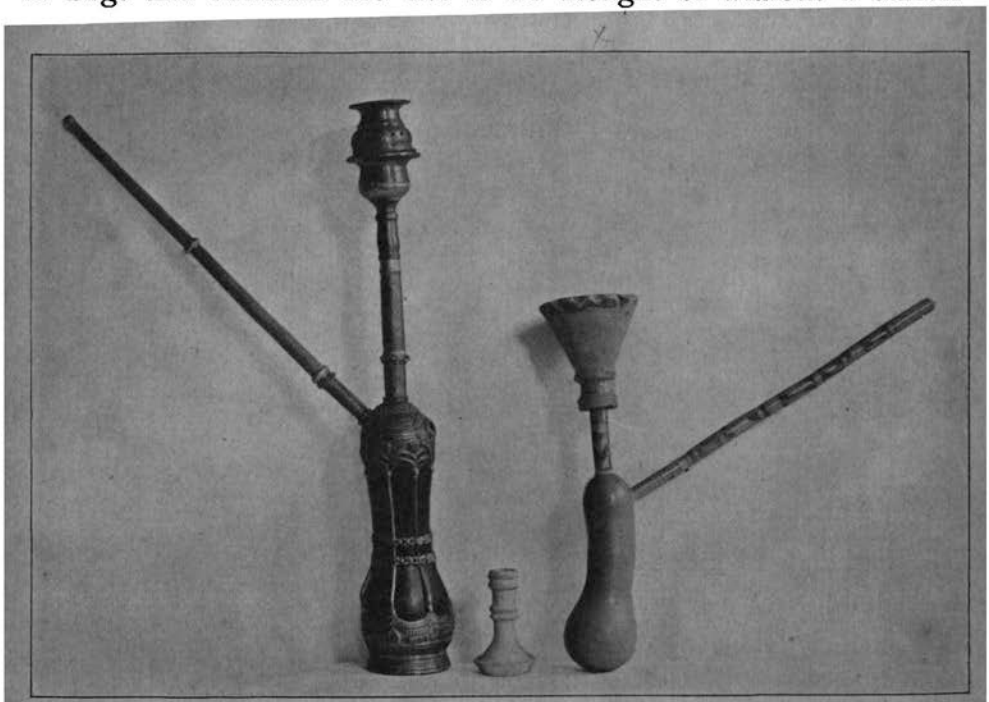
murmuring "Allah Akbar" (God is great), and a belching is heard from all throats as a proof that the meal has been plentiful. Then it is the turn of the hookah; after the live coals, lying on the tobacco which is cut in large pieces in the pipe-bowl, have caught fire, the host takes the first puff as a proof that it is all right, and then he lets it pass from mouth to mouth. Each person sucks a puff down into his lungs where the smoke often remains while a vessel of tea is emptied, and only then does it get out of those assembled who at certain moments are not, unlike so many small chimneys.

Brass aftâbá with two basins. The lids are latticed work.
All three are richly engraved, hammered out with plates of silver and decorated with precious stones.
National Museum at Copenhagen. Olufsen's Collection.

Whilst poor people must generally be content to invite their friends to a ziyafat, consisting of a simple pillau or perhaps only of warm newly baked bread, tea and some fruit, there are in richer houses any amount of dishes, both quantity and quality being regulated by the social rank of the guests. The rule is that the meal is always laid for about 10 times as many guests as have been invited, and the higher in rank the host is, the more plentiful is the meal, without consideration to there being only one guest or more.

Strangers arriving at Bokhara as guests and especially the Bokharan officials themselves who travel about the realm in virtue of their office, are generally a great plague for the population owing

to the traditional hospitality; for it is the custom of the country that the person concerned is always entitled on his arrival to the so-called darstarkhan, a plentiful festive meal for himself and his companions; by exacting officials this entertainment is often extended over several days, and then smaller kishlaks are often nearly starved out. Moreover the guest is allowed to take with him from the meals what he and his servants do not eat. Audiences of the Emir, visits to Begs and Aksakals are not to be thought of without a darstar-

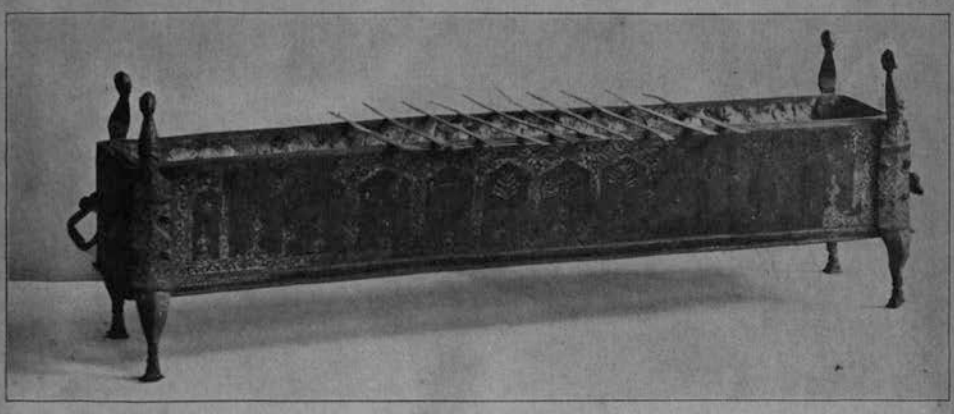


Chillems of pumpkin. The left one is mounted with brass and decorated with turquoises. Head and pipe are brass. In the middle a primitive earthen head. To the right the commonly used chillem with earthen head and pipe of bamboo. Nat. Mus. at Copenhagen. Olufsen's Collection.

khan, and the more well-to-do have a special subordinate, darstarkhandji, to see to the serving. At the meals the men, of course, eat by themselves and the women and the smallest children by themselves. After the meals the guests are diverted with music on the long guitar or the shorter ribâb, by fluteplaying, surnai, and tambourine music accompanied with singing. Both music and song are extremely monotonous and do not sound well to European ears. The song resembles wailing and howling. Both the vocal and instrumental music begins, as a rule, very soft and

ends in exstacy. Where there are batshas, these are the principal artists.

As to eating of flesh they distinguish in Bokhara between what is allowed, halal, and what is forbidden, haram, and under halal there is a subsection, makruh, which is, indeed, allowed but nevertheless considered improper. Haram is, for instance, the swine, and the wild boars are therefore not hunted, whilst, for instance, the hare is considered makruh. Haram and makruh are a great inconvenience to the population which is prevented from utilising the stock of deer which in certain places is large. Strictly speaking, game cannot be eaten if it does not give any sign of life after it is knocked down, so that the jugular can be opened and the blood



Chafing-vessel of brass, richly engraved. Inwardly provided with fire-clay. It is used in the Bokharan public kitchens for roasting meat on the spit. The iron spits are seen lying across the chafing-vessel. Nat. Mus. at Copenhagen. Olufsen's Collection.

run out, for the life or the soul is in the blood, and if the latter cannot run, the game is considered haram. Nomads, half-nomads and inhabitants of the mountains do not, however, take things too much in earnest, and have the benefit of the game, which is practically not hunted by the inhabitants of the oases of the plain or the larger towns. Nor do the natives avail themselves much of fish. It is, so to speak, only the inhabitants on the Amu Darya who eat fish (mâhi), whilst the inhabitants of the towns in the oases do not eat it; it is, at any rate, looked upon as makruh. Even the Kirghiz on the large lakes in Pamir where carp abound, could not think of eating fish.

It has been mentioned that one of the principal articles of food, especially among the working classes which are called Fukara, is

bread (non), baked as a kind of large pancake and generally eaten hot. When this bread is intended to be very delicate, one loaf is placed over the other with fat between them. For carrying with them into the field or on a single day's journey, for it cannot keep any longer, this bread is very practical for the natives. They namely bake the bread as thin as paper for packing up fruit or whatever they carry with them of food and roll it up in the cloth which they wear round their waists. A better sort of bread

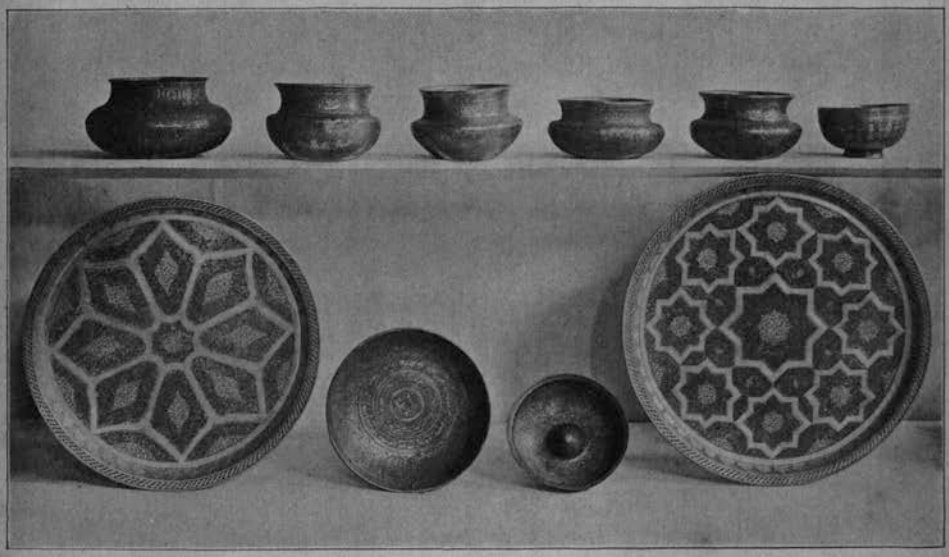
The hammered out copper lid to the left is used to place over a dish with pillau or roast to keep it warm. The tinned copper pot, richly engraved, is intended for cooking pillau. Nat. Mus. at Copenhagen. Olufsen's Collection.

are the round or square large biscuits, and finally some very hard rusks (gultsha), strewn with poppy-seeds and used on journeys, as they keep for months in the dry climate. The bread is baked of unfermented dough, wherefore it is rather difficult for European stomachs to get accustomed to it. The flour is ground in the small water mills (chigirman) situated beside the mountain streams and on the canals in the plain; they are driven by means of a small primitive turbine, consisting only of a cross of planks. Or they grind the corn by means of one hollow and one round stone. The small turbine mills yield very good flour, almost as well ground as that from our European mills.

Tinned copper dishes for serving up pillau. Engraved in Persian style.
Nat. Mus. at Copenhagen. Olufsen's Collection.

From the left to the right. Tinned copper vessel, richly engraved, in which soup and other dishes are served. Tinned copper tray on which pillau is served. Tinned copper lid, richly engraved, to be placed over a dish with viands. Nat. Mus. at Copenhagen. Olufsen's Collection.

Pillau takes the first place among the dishes that will be dealt with here. The rice (birindsh) is peeled off in small rice mills driven by a turbine like the other water mills. Two long horizontal planks whose ends pass into a small clay-house where the rice is heaped up are set going up and down by the turbine. On the ends are two vertical planks continually hammering down into the heap of rice and thus peeling it off. The portion of rice set apart for pillau lies in cold water one or two hours to be cleansed, and then it is strained off. Now a tinned copper cauldron is half filled



The small vessels, all of tinned engraved copper, are intended for keeping sweatmeats, spices, grease and butter etc. The two larger engraved brass dishes are used for serving up fruit and pastry. Nat. Mus. at Copenhagen. Olufsen's Collection.

with salted water, the cauldron is covered with a tight-fitting lid and placed over a quick open fire. As soon as the water boils, the rice is thrown into it and is allowed to boil for about 10 minutes or until the rice can be mashed between the fingers. Then the rice is poured off, and in the cauldron butter or fat is melted with a little water over which the rice is lightly strewn. The cauldron is closed quite tightly by means of a piece of cloth below the lid. Then it is placed on red hot coals, live coals being also laid on the lid. It stands thus for one or one and a half hour, until the rice has become saturated with vapour. Then more butter, fat, chicken or mutton, cut quinces, carrots, apples, almonds, raisins, apricots,

beans or whatever fruit or vegetables there may be in the house are often added.

A very common dish is rice boiled together with soup of mutton or chicken. It is called âsh and is dressed with several small variations. Common clear soup, shurpa, is a favourite dish, especially when it is as full of fat as possible. Several kinds of porridge are common, thus shirbirindsh, consisting of rice boiled with milk, millet porridge and porridge or pottage of durra and water or milk to which fat or sesame oil is often added. As a rule, milk (süd) is not considered easily digestible and not eaten very much in the larger oases, where it is brought to the markets by milk-boys. They carry it in small earthen pots hanging balanced across

Tinned, engraved copper vessels, partly provided with inscriptions, religious passages; used for serving up fluid dishes. Nat. Mus. at Copenhagen. Olufsen's Collection.

their shoulders, and to prevent the milk from spilling, thick cream is laid above it, serving as a lid. The milk pots are often carried on the backs of the small donkeys. The fermented mare's milk, also sometimes camel's or sheep's milk, which is said to be very fattening, is according to my experience and taste a disgusting drink, it is very sour, purses up the mouth and makes the teeth sore. It is eaten by the nomads, Usbegs and Kirghiz, less by the half-nomads and is not found in the towns of the oases. It is kept in small leather bags, hanging at the saddle during the ride. It is a fact that the nomads have, on an average, bad teeth, and Kirghiz of twenty odd years who have lost all their teeth are often met with; all of them suffer much from tooth-ache which is, no doubt, due to the many milk-dishes and especially to kumysh.

In all chaikhanéhs in Bokhara force-meat balls can be bought

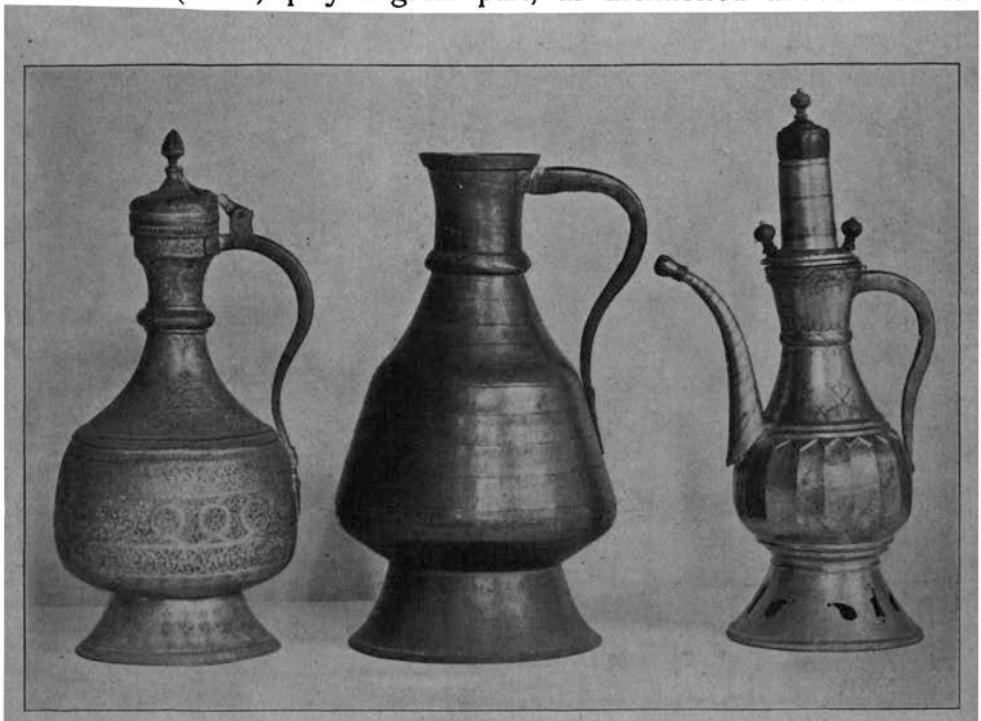
mixed with onions (pias or piâs) and spices to a sort of pie. They are cooked in steam and are, as a rule, of a good flavour. In the kitchen bazar and also with private people the so-called mantuy is cooked, a sort of flour-pudding, that is filled with chopped meat, mixed with fat and spices. It is cooked in a special way: over the fire is placed a kettle, closed at the top, and

Jugs (chaidjush) of brass. The form of the two extreme is said by the natives to be that of the original Bokhara jug. The style of the central one is said to be derived from Khorassan. (Olufsen's private collection.)

the mouth of which is not larger than a clenched fist. Upon this are placed three or four tight-fitting sieves, the lowest one being pasted on to the kettle with dough. On the water boiling and the sieves being filled with a sufficient amount of vapour the mantuy is laid first in the uppermost and then in the lower sieves where it remains until it has been cooked. The cooked mantuy is often roasted in fat and then called sanbusy (lady's kiss). In several places this mantuy is filled like a sort of cake with sour milk and flour which is very disgusting from a European point of

view. Of other dishes can be mentioned kaurdak, mutton with onions, pepper and sauce, kebâb, roasted pieces of mutton, chashlik, mutton roasted on spit. In the mountains the flesh of the argali is eaten which has a curious nauseously sweet flavour. Boiled and roasted chicken is considered a great delicacy, like eggs, that are always eaten hard boiled.

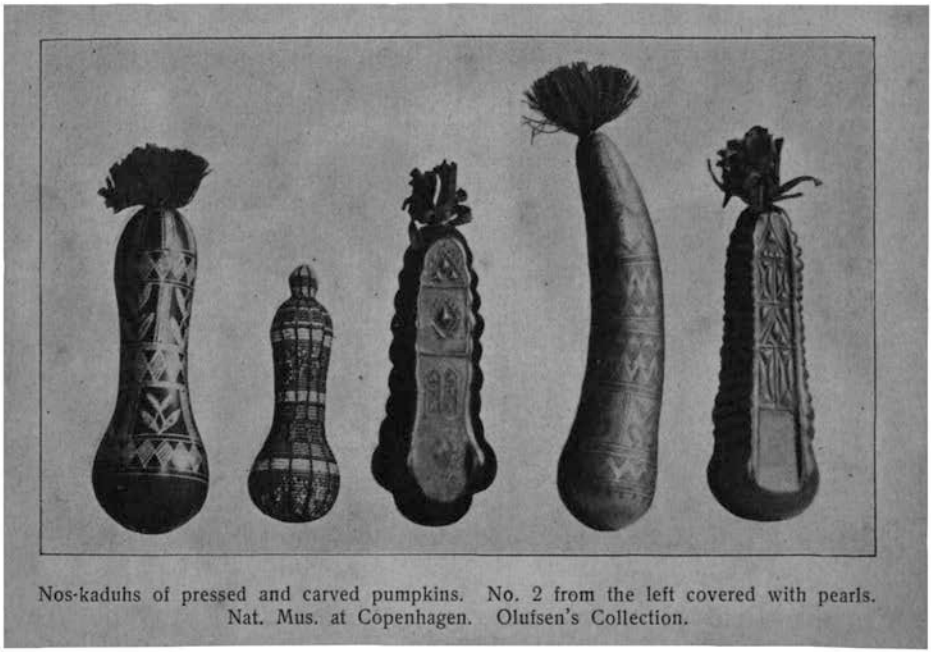
Sweets (shirin) play a great part, as mentioned above. Some



From the left to the right. Kungan of tinned copper, richly engraved. Kungan ot copper, both intended for boiling water. The original samovar, tinned copper. Nat. Mus. at Copenhagen. Olufsen's Collection.

of the principal, besides numerous sorts of confectionery and caramels are: halva, consisting of sugar, honey and pieces of almond, pistenas, a white sugar dough with pistachios, halova-i-teri, very like long white threads of yarn. A favourite dish is nishalla-i-kandane. It consists of milk, sugar, flour and several other ingredients, stirred up to a thick mass. It is sold in the larger towns in the oases. For a Pul one is allowed to dip one's finger into the dish and lick off as much as sticks to one's finger. When several persons stand licking, the scene is extremely funny. Ice

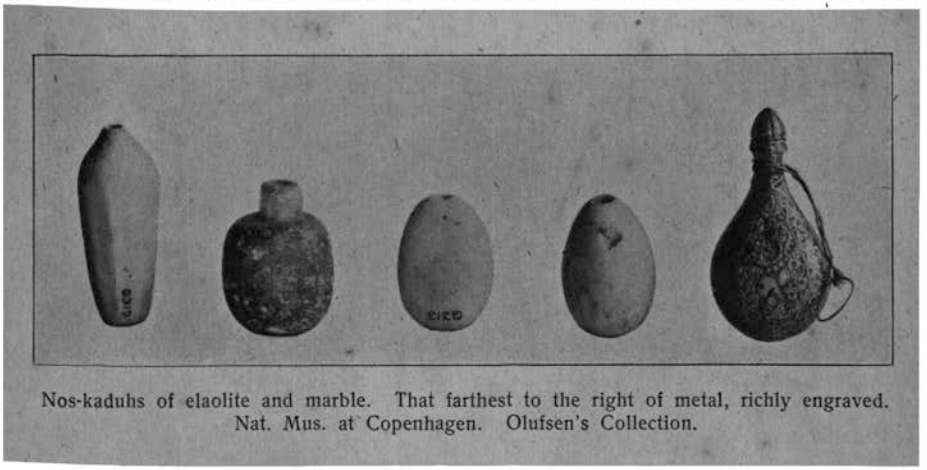
(yâkh) is eaten in large quantities in Bokhara; one cannot imagine the summer without ice. It is buried in winter, scraped, so as to resemble snow, is mixed with fruit, syrups or other sweet ingredients and laid in small wooden barrels across which is placed a piece of cloth and a wooden lid. The ice seller continually wandering about the streets of Bokhara in summer, his barrel hanging in a string across his back, always does a good business. Nobody can resist the cry: "Yâkh, Yâkh!"



Nos-kaduhs of pressed and carved pumpkins. No. 2 from the left covered with pearls. Nat. Mus. at Copenhagen. Olufsen's Collection.

The commonest and practically only drink of relish is tea, coffee being only known from the Europeans and not drunk by the natives. They use large quantities of green tea (kök chai); it is somewhat acid but quenches the thirst excellently; it is cheaper than the black tea (kara chai) which like the former is partly carried by land directly from China, but now mostly introduced from Russia. On ordering one's tea in the tea-houses at Bokhara, one generally hears the question: "Kök chai, yâ kara chai?" (green or black tea?), very much like the cry of German beer-house waiters: "Dunkel oder hell?" Moreover they employ the black brick tea, a rectangular, half a foot long briquet of pressed tea leaves on which the trade mark of the manufacturer stands out like a re-

lief. It is most used by the nomads and the poor population, as it is very cheap. It can be dressed like common tea, pieces of the briquet being broken off for each dressing, but the nomads often eat the brick tea, that is broken to pieces, together with fat and water. The dish looks so unpleasant, resembling foul blood, that I never ventured to taste it. Tea is generally cooked in a chaidjush (tea-jug); this is filled with water and put into an open fire, and on the water boiling up through the narrow neck, it is taken off the fire and the tea is poured on, and then it is placed for some minutes over live coals to draw. In all larger towns the Russian samovar is now seen where the tea is cooked in a pot after the Russian custom. Before the arrival of the Russians



Nos-kaduhs of elaolite and marble. That farthest to the right of metal, richly engraved. Nat. Mus. at Copenhagen. Olufsen's Collection.

the natives had an original samovar, only intended for boiling water and without any platform for the tea-pot. This samovar is employed side by side with the Russian, the latter superseding, of course, by degrees the original one.

Besides tea can be named some very pernicious means of enjoyment, namely drinking of opium, as mentioned under the batshas, and in numerous places smoking of opium, but nearly everywhere secretly, an opium-smoker being much despised. An intoxicating liquor, "beng" is also made of flax. It is, however, rare in Bokhara, but common in Khiva from which country it is introduced.

Tobacco smoking is carried on, not least by women; and they only know the water-pipe (chillem). Poor people often smoke dried apricot leaves, and if they have not got any pipe, they dig a hole in the earth for the leaves, and after sticking a straw slantingly into

the hole, they lie down flat on the ground sucking at the straw. Chewing tobacco and snuff (nos) is made of a mixture of green or yellow tobacco, charcoal and a little fat that is pulverized. It is kept in the dried pumpkin (nos-kaduh) and is never wanting in the belt of a Bokhara man. With the fingers a small portion is laid behind the fore teeth in the under jaw and a little is stuck up into the nose. It smells odiously wherefore the breath of Bokhara people is intolerable. It also destroys the palate and the gums.

14.

DRESS

OWING to the long hot summer in Bokhara the clothing is specially adapted to this season; during the short winter poor people are obliged to bear up against the cold. But the great difference between the climate of the plains and lower valleys in the mountains of East Bokhara and that of the high valleys in West Pamir, of course, necessitates considerable varieties of lighter, airier stuffs and heavier, warmer. Whereas in the former regions practically no wool is employed for the dress itself, this is used to a great extent in the higher mountains, and whilst the use of fur in the lower towns of the oases is known only in the depth of winter, and even then only by more well-to-do people, fur dresses are often worn throughout the year in the higher mountain valleys.

The principle of dress is the exact reverse of that of the European. It is namely adapted to keep the head warm and the back covered, whilst breast, stomach and feet are exposed to the cold or the changing weather.

The original dresses are quite devoid of buttons, hooks and pockets, only a single hook-buckle being employed now and then. The men's summer garment consists of a shirt, pirân, of white cotton, low at the neck and a little down the breast and here edged with braids of different colours, mostly red. It reaches but little below the stomach, and the sleeves are very short. The shirt is stuck down into a pair of white, very wide cotton trousers, only reaching the knees. The trousers are tied round the waist with a string in a tuck, and the shirt too is fastened at the neck by strings. Over the shirt is worn a caftan, don or ton, of coloured cotton, generally going down to the ankles. It is open from neck to foot, has a sort of high soldier's collar and is edged with a gay braid-

ding at the neck and down to the feet and is tied on the breast by two strings. The feet are stuck into a pair of leather galoches (kaush) with wooden sole and iron-binding. The clean-shaven head is covered by a small pointed cotton cap (kalapush), embroidered all over with coloured strings, it is green for those who have been at Mecca (Hadshi). Round the kalapush is wrapped the turban (sallá), originally only consisting of a piece of muslin or cotton of a length of 14 feet, but now the length of it often rises to about 50 feet. It is well known that the turban is the pall of the orthodox Mussulman which he always has about him. It has to be rolled up every evening after the prayer and rolled on again every morning, but this is not done by all people and principally well-to-do people often have a special turban or night-cap, as it were, for this use, whilst the nicely rolled turbans when put off are placed aside ready for putting on the head. A beautifully rolled turban is an important thing in Bokhara, and it is considered genteel to wear one as large as possible, owing to a fashion not unlike that which sometimes prevails in European ladies' hats. The Bokharan proverb: "Sallá katta, pul yok", large turban and no money, is rather characteristic. Originally the white turban was the special privilege of the spiritual mullahs, but now it is also worn by all officials and functionaries, whilst the others, Fukara, are only allowed to wear turbans of stuffs striped with red or blue. The Emir and his highest dignitaries often wear turbans of stuffs wrought with gold or silver which looks very nice. For fastening the caftan a long, rolled up, many coloured handkerchief, lungi, is employed which is tied or, to put it more exactly, wrapped round the waist, and in this handkerchief is kept what the Europeans keep in their pockets.

Man's dress of green velvet with gold-brocade. Belt set with plates of silver and gold together with precious stones, very rare and costly. Only to be worn by the very highest officials, for instance, an Ataluk or Kasi-kalân or a Beg of high rank in one of the larger provinces. Nat. Mus. at Copenhagen. Olufsen's Collection.

Sometimes common working people have nothing else for their turban than this lungi which they wrap round their kalapush on certain occasions.

In summer the ordinary Bokhara man does not wear more garments than those named here, and on the poorest they often hang in fringes and rags and cover neither one nor the other part of their bodies.

The rule is that the more well-to-do and higher in rank one is, the more garments does one put on both summer and winter, and the equipment can also be made finer within certain bounds, as special stuffs and ways of equipment are reserved for the officials. These bounds are not marked out distinctly, but nevertheless everybody knows to which length he can carry matters without risking a conflict with the Raïs who would immediately confiscate the inadmissable garments and impose penalties into the bargain.

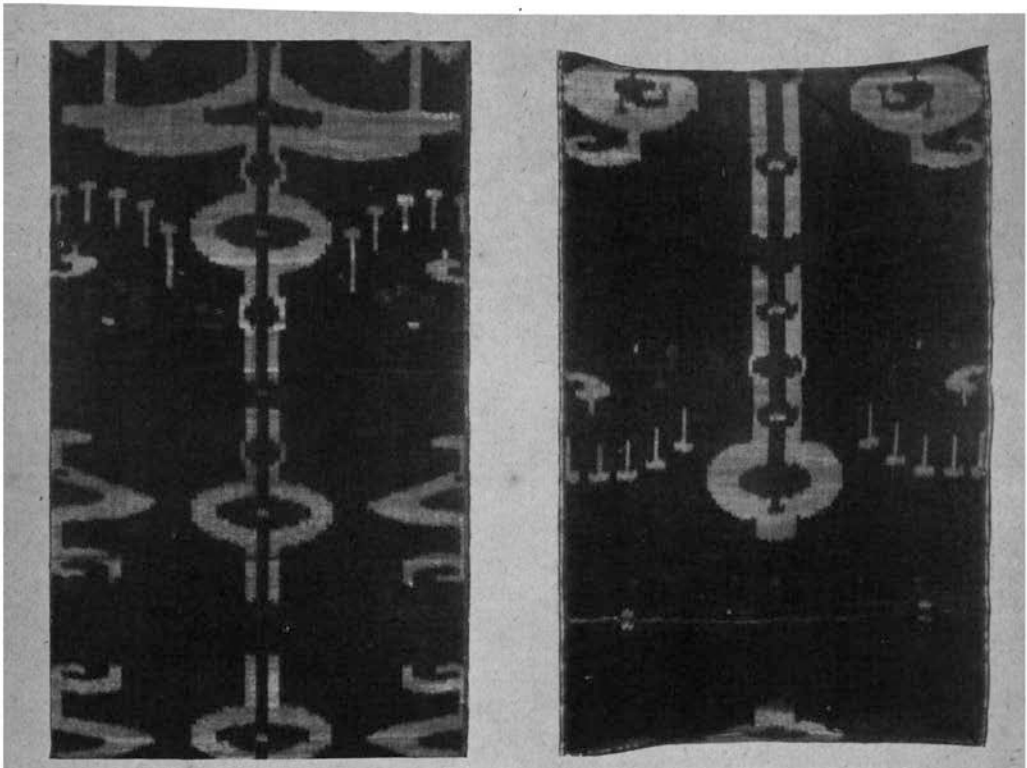
Kalapush of cotton-linen embroidered with silk, such as it is worn by the common Bokhara man under the turban. (Olufsen's private collection.)

As a rule, the fairly well-to-do citizen wears two caftans, one over the other, the officials always, and if the Bokharan wants to make much of a guest he puts on both 4, 5 and 6, according to his means. Thus one day when I visited the Divambegi of Bokhara unannounced, he only wore the common two caftans, but after having exchanged the usual, ever so long salutations, he immediately ordered several fine caftans to be fetched which a servant put on him, while he observed to me: "I put on these, because you, my dear guest, have arrived." By degrees he had become a real mountain of rustling silk, so that he was hardly able to sit down.

To be elegant the caftans must absolutely rustle, like the silk petticoats of Parisian ladies; consequently heavy silk is very much liked for the garments and if the velvet caftans embroidered with gold are worn over the others, there must always be several of

silk within. Those who cannot afford to buy silk, provide caftans of a sort of glazed hemp stuff that also rustles as long as it is new.

A man of high rank thus equipped with a real store of caftans, the sleeves of which are, by the way, always twice as long as the arms, is, of course, quite unable to do any work of importance; he is bathed in sweat in summer and can only move slowly, but it



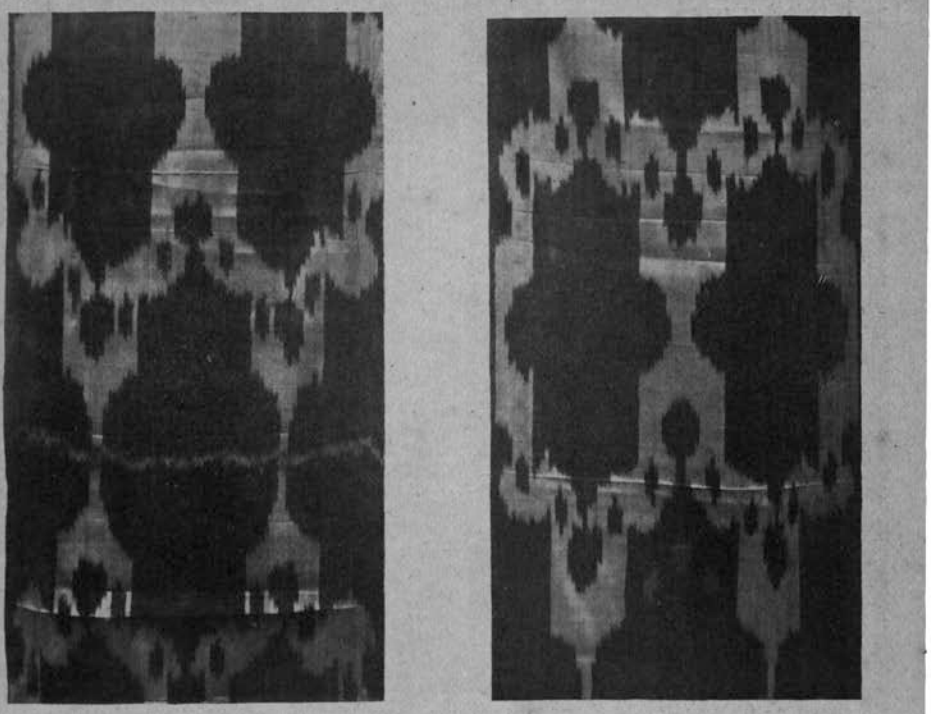
Two patterns of Bokharan velvet (white, green, yellow and red). Nat. Mus. at Copenhagen. Olufsen's collection.

is, indeed, a sign of a low, social degree to walk at a great pace. Thus walking in the bazars of Bokhara with my friend, the Bokharan attaché Mirza Abdul Khader Beg and taking hold of his arm to ask him to hurry on, he always smilingly resisted, whispering: "Do walk slowly, or they will not believe in the bazar that we are people of quality."

The circumstance that the high rank of a man is shown by his many caftans, of course, has the effect that poor people ape. It is therefore a common thing that on a man buying a new caftan he lets the old rags hang within, and if one gives a new caftan to a

lazzarone, it is impossible to persuade him to throw away the old one. The caftans of cotton or silk are lined with a thinner or thicker layer of wadding according to the season. Of late many people employ Russian cloth, mâl, for the caftans. The well-to-do Bokharan keeps his caftans well ironed.

In Bokhara the caftan is often used as a present; it is namely

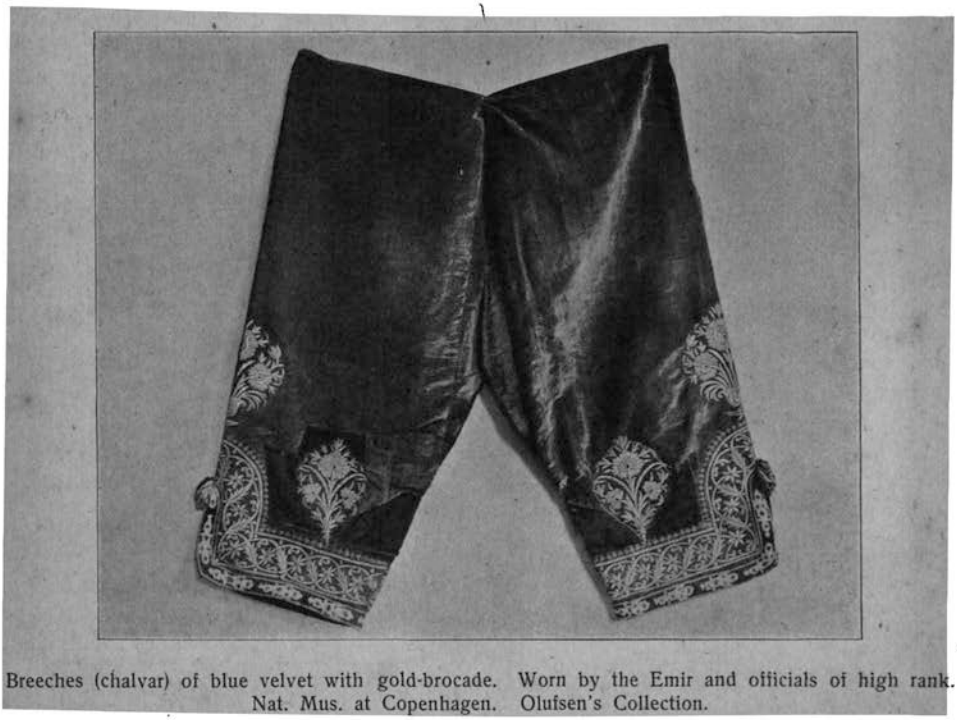


Two patterns of Bokharan silk (yellow, blue and red).
Nat. Mus. at Copenhagen. Olufsen's collection.

considered an honour to receive such a one. If content with one's servant one gives him a caftan, and on visiting a well-to-do Bokhara man, one is an unwelcome guest, if one or several caftans are not presented. At my numerous visits to Begs and other officials I received an endless number of caftans, with the advantage that I could again use them as presents either for other Begs or for my servants.

Over the proper caftans (don) they wear on travels a wide caftan, chapan, of yellowish brown camel's wool as over-cloak, rain- or dust-coat to shelter the finer caftans from the hard wear on

horseback. A pair of over-trousers, chalvar, generally of velvet with silver- or gold-brocade or of yellow tanned skin, braided in different colours are also worn by rich people on travels. The latter are also worn by the so-called Djigits who are of great importance in the whole of Central Asia. They serve as orderlies, guides, escort; they pass their whole life on horseback, unwilling to undertake any other physical work than to ride and in case of need take arms.

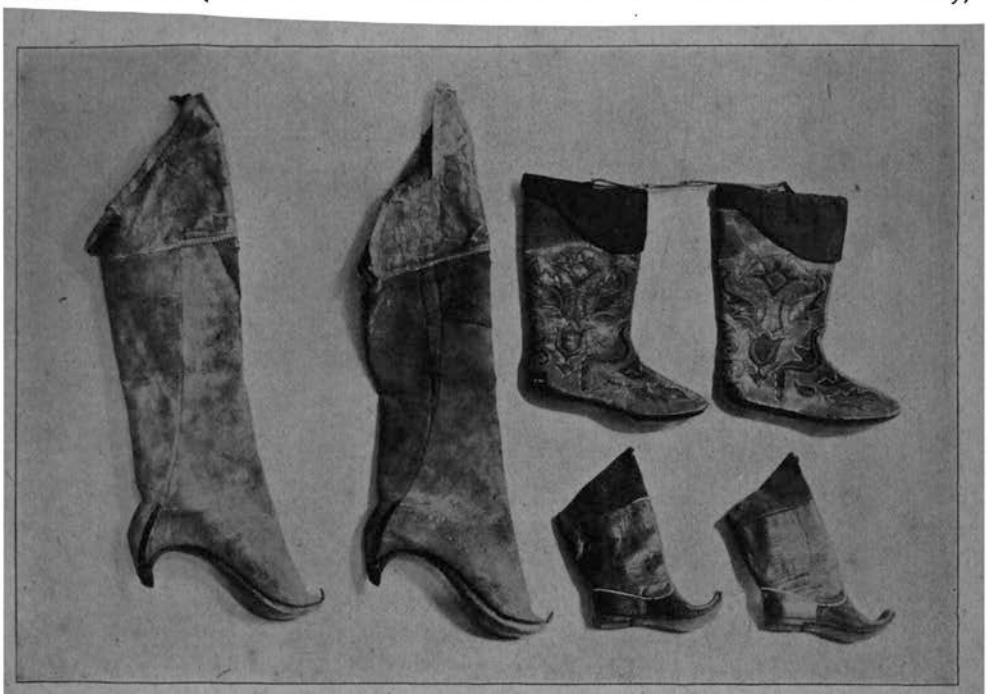


Breeches (chalvar) of blue velvet with gold-brocade. Worn by the Emir and officials of high rank. Nat. Mus. at Copenhagen. Olufsen's Collection.

To the dress of the well-to-do man also belong boots or, to put it more exactly, a sort of long leather stockings without soles; they reach below the knee, are stuck down into the galoches, and are, as a rule, adorned with brocade or leather in different colours. The rich officials and the Emir often wear such boots of gold- or silver-brocade, and on entering a house or a mosque, the galoches are placed at the door. If, by chance, one of the galoches comes to lie bottom up, it is a sign that one's wife is false, and if it is the case with both of them, she has run away with another man. And in this respect a Bokhara man is not to be joked with.

Long boots of black leather, yellow tanned leather or lac, yetik,

of a form resembling the European are also worn by the inhabitants of the cities, but more rarely. They are remarkable for their exceedingly high and pointed heels sometimes made of a hart's horn; they have broad or pointed toes and are very uncomfortable. Stockings, jûrâb, are rare; only in a few places in the Pamir valleys are long woollen stockings, adorned with many different patterns knitted (see Olufsen: Vakhan and Garan. London. Heinemann),

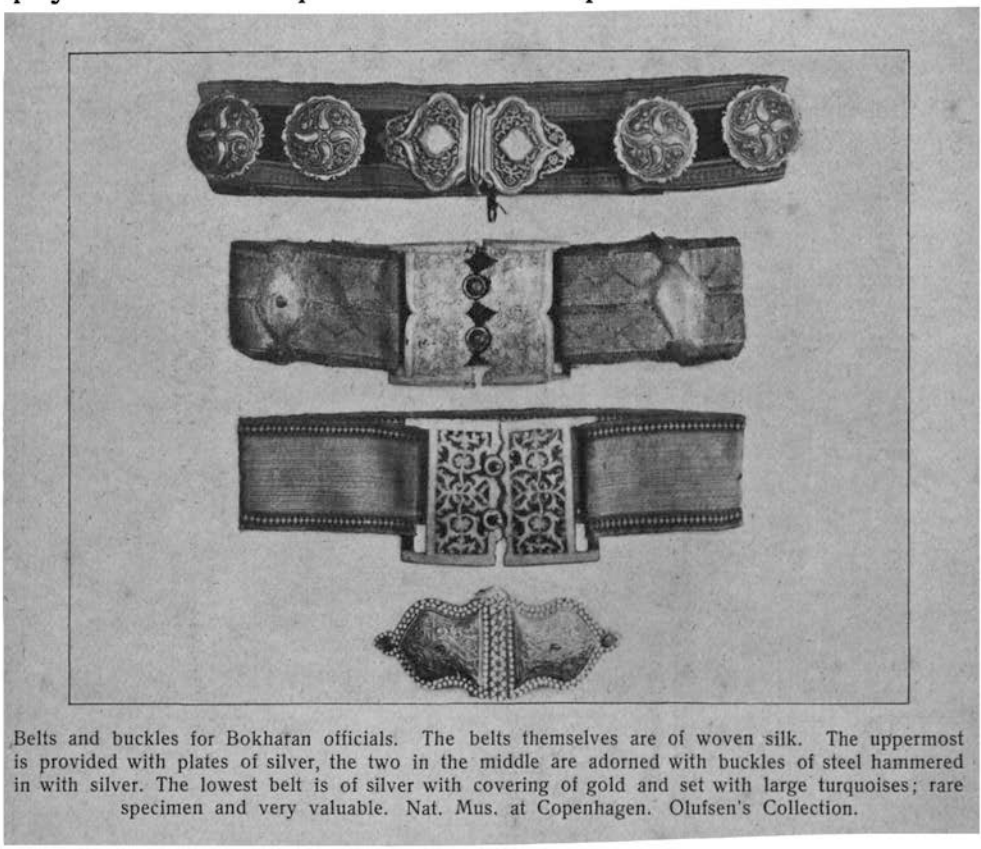


From the left to the right: man's boots with a horn for heel. Woman's boots with coloured leathern decorations. Child's boots. Over these woman's boots wooden galoches are worn. Nat. Mus. at Copenhagen. Olufsens Collection.

otherwise some people wear short socks only reaching the ankles, as, for instance, the Turkomans. Instead of stockings long cotton strips are used that are wrapped round the feet and twisted round the legs before putting on the long leather stockings or yetiks, or the bare feet are stuck into the galoches.

Instead of the lungi of the common man, varying, according to his means, from a piece of simple cotton to a large shawl that can be twisted four or five times round the waist, the officials wear woven silk belts, kamarband, adorned with large, hammered out plates of silver or gold, often set with precious stones, or the plates consist

of steel or iron with threads of gold or silver hammered in. If one is well up in Bokharan affairs one may soon guess the rank of the person concerned from the appearance of the belt, for whilst a Mirzabâshi is never seen with anything but hammered out plates of silver on his belt, a Bi, Paravanatshi or Divambegi always displays considerable splendour in that respect. The rule is that the

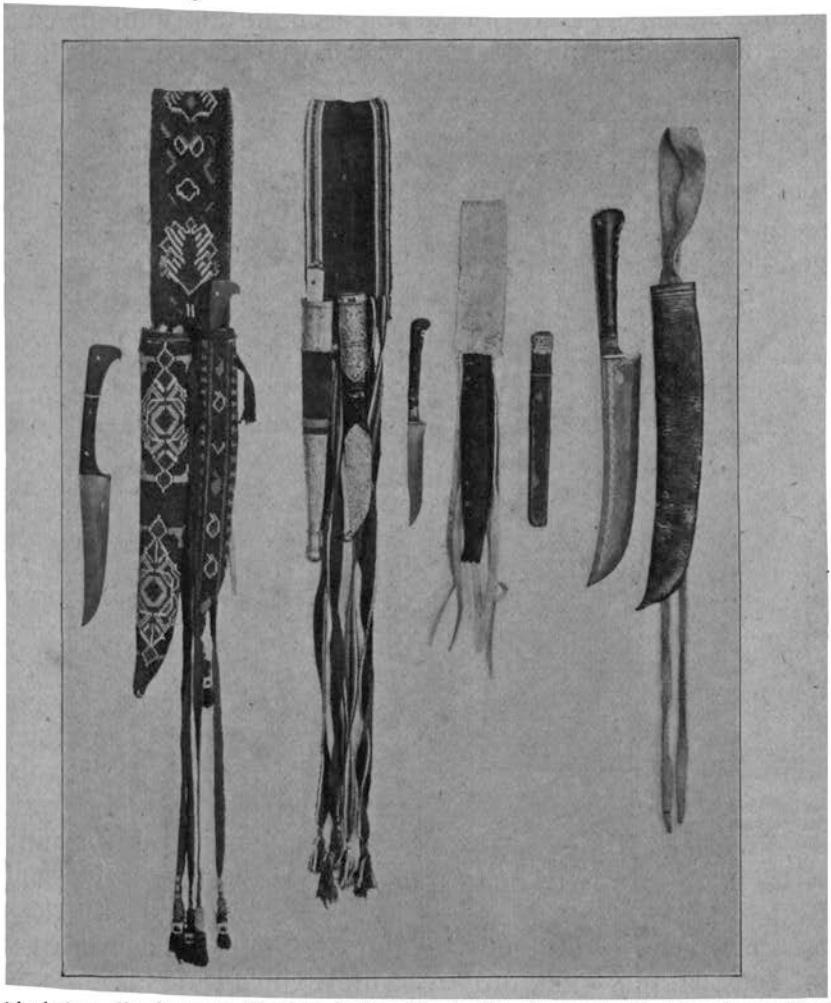


Belts and buckles for Bokharan officials. The belts themselves are of woven silk. The uppermost is provided with plates of silver, the two in the middle are adorned with buckles of steel hammered in with silver. The lowest belt is of silver with covering of gold and set with large turquoises; rare specimen and very valuable. Nat. Mus. at Copenhagen. Olufsen's Collection.

belts are given to the officials by the Emir's Government as part of a sort of uniform, but if an official buys himself a belt, he knows very well, in what category he must abide, although there are no fixed degrees of distinction.

Among trinkets finger rings bear a prominent part; every respectable man has at least one silver ring with a plate of lapis lazuli, not only because the blue stone, like the turquoise, is a charm against the evil eye, but principally because the ring in whose plate the man's name is engraved, is his seal which he must always have at hand to attach to letters, contracts etc., which then are

valid in law. Very few are, indeed, able to write their name, to say nothing of more. The natives wear many other rings of silver, gold or brass with various stones. Most of them are roughly made and often of a very uncomfortable size.

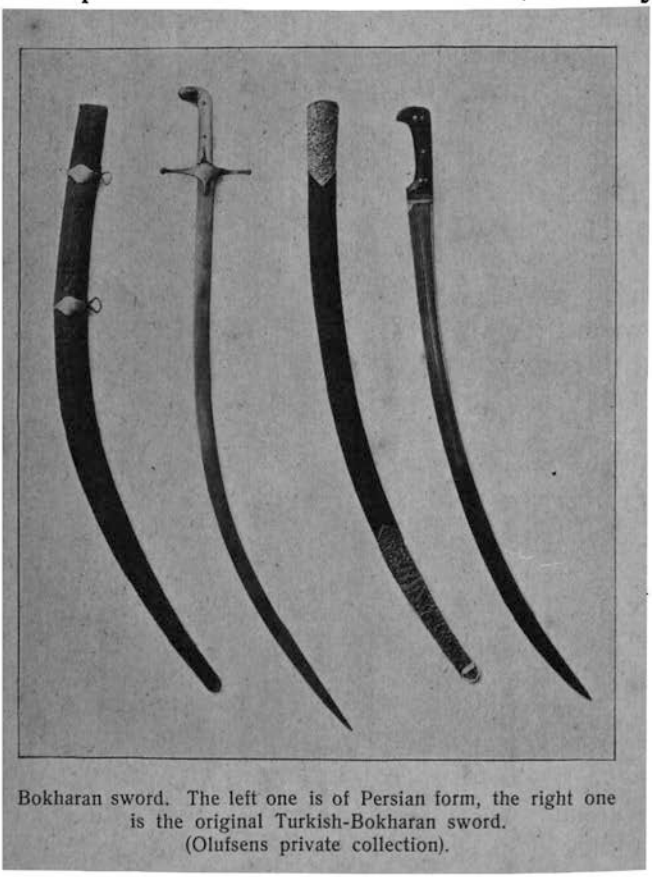


Two double knives, the former a Karatagh knife with sheaths of woven silk, the other with silver-mounted sheaths, are signs for the Emir's cook, a small Karatagh-knife, a whetstone with tap of silver decorated with turquoises, with sheath; common Bokharan knife hammered in with threads of silver, used both as a tool and a weapon. Nat. Mus. at Copenhagen. Olufsen's Collection.

As a charm against diseases and other evils many wear the so-called doppé, a cylinder of silver often set with precious stones for keeping slips of paper with passages of the Koran. These doppés hang in a string round the neck or are sewed on the caftan or the kalapush.

Some people dye their nails and beard with henna; the fashion is most common among the Tadjiks, but is not considered genteel, and most people only dye their nails.

Instead of the caftans of gay cotton the nomads wear yellowish brown ones of camel's wool, or they are dressed in fur-caftans of sheep-skin with the wool innermost, all the year round. Their head-dress, like that of the Kirghiz, is often a cap of black sheep-skin, chelpak, and their boots, like those of the Kirghiz, are of yellowish brown leather with pointed toes turned upward. The mountain people wear white woollen caftans and brown or white woollen trousers, and fur is worn all the year round especially by poor people. The boots of the mountain people are generally a sort of soft long boots with thin soles, more particularly a sort of leather stockings, fastened round the ankles by gaily coloured strings.

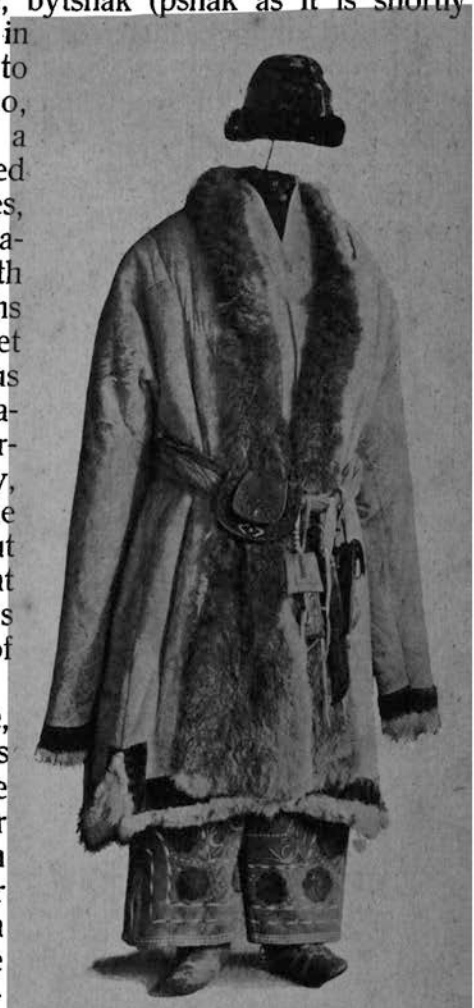


Bokharan sword. The left one is of Persian form, the right one is the original Turkish-Bokharan sword. (Olufsens private collection).

The winter garment is a fur-cloak, postun, worn over the lighter caftans, it is generally of sheep-skin, but wolf's skin, skin of otter, fox or Ovis Poli is also worn. The turban is replaced by a cap of coloured velvet edged with fur, and the nomads have large hoods with ear-laps lined with wolf's or fox's skin. The large, high fur-cap, chugerma, is only worn by the Turkomans and more rarely by those Bokharized.

The Bokhara man often carries a real arsenal of different objects suspended by a leather strap round his waist under his lungi, such as purses for tobacco, money, the indispensable razor for

shaving his head, and the nomads especially are always furnished with tinder-box, awls, hammer, powder, shot-bags, whetstone etc. Add to this the indispensable knife, bytshak (pshak as it is shortly pronounced) which everybody has in his belt. Everybody may be said to be armed and to be unarmed, too, the knife being more a tool than a weapon, but, of course, it is also used as the latter. The larger kinds of knives, kard, that have often magnificent Damascus blades, hammered in with threads of silver and gold, and sheaths mounted with silver and gold and set with turquoises and other precious stones are exclusively meant as weapons, but are now only worn by courtiers; they are a sign of their dignity, a sort of ceremonial weapon, like the axe, ai-balta, formerly used in war, but now only carried by a Mirshab in front of the procession of the Emir or his prime minister or on the reception of a guest of quality.

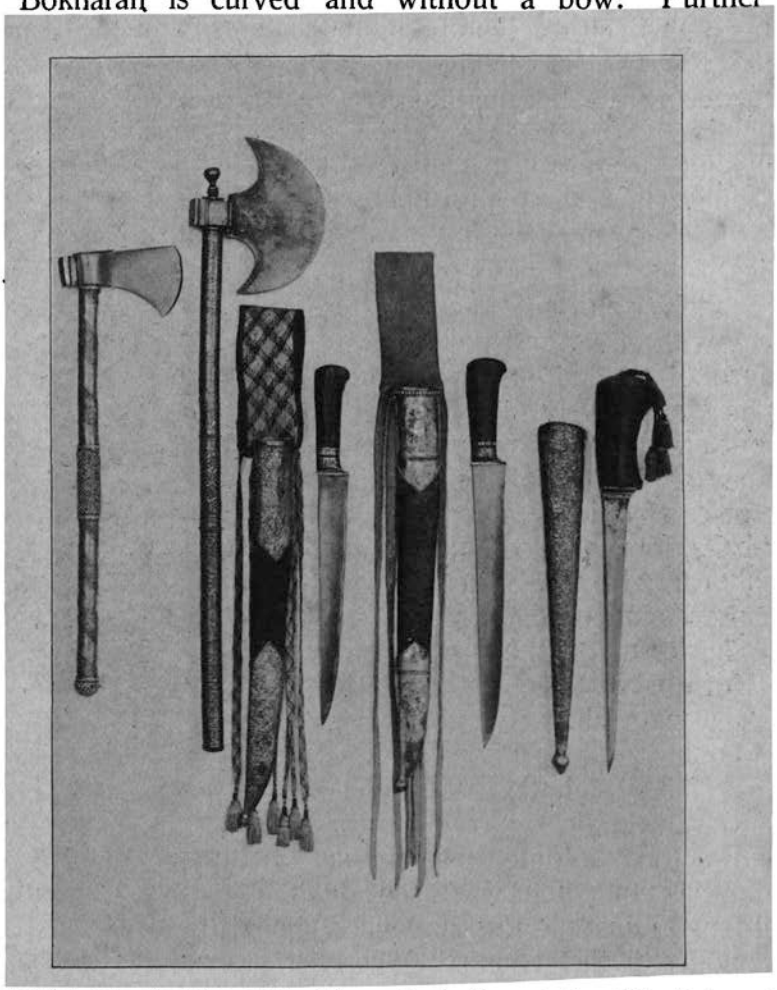


Man's dress (winter) of skin of Ovis Poli. The cap (chelpak) is velvet lined with fur. The trousers (yellow tanned Ovis Poli) are embroidered with silk. The wooden galoches for the leather stockings are lacking. Nat. Mus. at Copenhagen. Olufsen's Collect.

The means of defence and offence, now old-fashioned in Europe, such as shirt of mail, (sâghut), breast-plate (châr-âina), shield (kalkân), and spear have now, too, become obsolete in Bokhara; this equipment was used for the last time against the Russians when they conquered the country. These things were of excellent workmanship. The shirts of mail consisted of riveted rings, the breast-plate of light steel-plates adorned with threads of gold and silver, the shields were of thick pressed leather and furnished with steel-plates, the spears were short, having, as a rule, four edges.

Outside the army which is now modernized in imitation of the Russian, the weapons of defence and offence are now matchlocks, miltyk, with a fork fixed to the barrel for sticking into the ground

or the gun of the same form (chakmak-miltyk), the horse-pistol, topandsha, with flintlock, and the sword, kylydsh or kilidsh, the original Bokharan is curved and without a bow. Further they

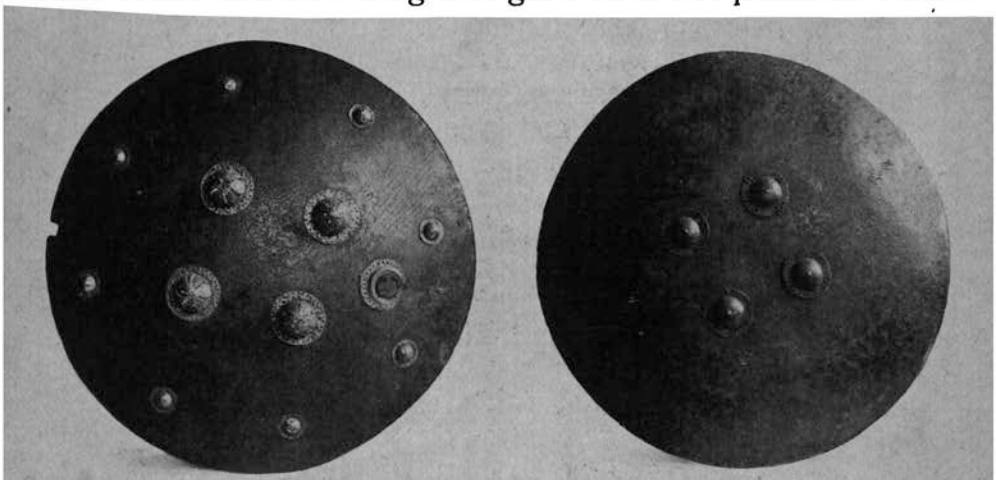


Two ceremonial hatchets, the helve of the left one is of silver and decorated with turquoises, the right one has an engraved brass helve, the blade is hammered in with threads of gold. The three knives (kard) with silver-mounted sheaths, set with precious stones and damaskeened blades are weapons used by the Emir's courtiers and higher officials. Nat. Mus. at Copenhagen. Olufsens Collection.

use the Persian curved swords with a bow and the Afghan with the basket-formed hilt; the latter have been introduced from the several countries.

As in the neighbouring countries the bow was used far into the last century both as a warlike and a hunting weapon of which many old Begs whom I visited could speak, having themselves

seen the walls and towers of the castles set with archers. In the remote regions in the mountains they, of course, were used longer than elsewhere, and in 1896 the inhabitants of Vakhan were armed with long bows during their first negotiations with me, until they became aware that I was not bent upon mischief. During my journey towards the north through the Pamir valleys I often saw the bow used as a fowling-piece. These bows which had a length of 2 and 3 metres, were strung with two strings of gut, at their middle held together by a piece of leather. In the latter were placed small round stones that were flung with great force and precision. I never

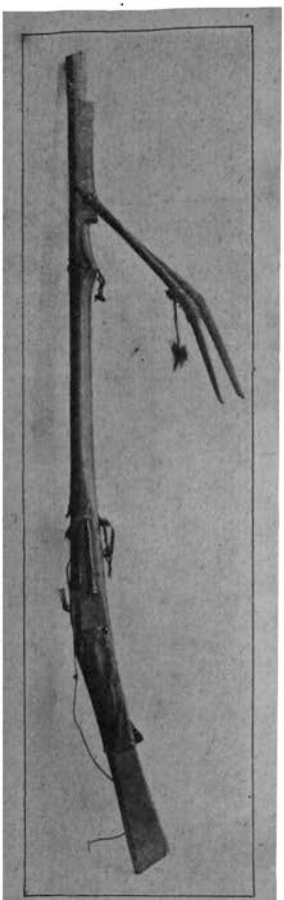


Shields of leather mass boiled together provided with ornaments of steel which on the shield to the left are hammered in with threads of gold. Nat. Mus. at Copenhagen. Olufsen's Collection.

saw arrows in use, and the natives declared that they did not know anything about them, but in bygone times they have been employed, according to the statements of older trustworthy Begs.

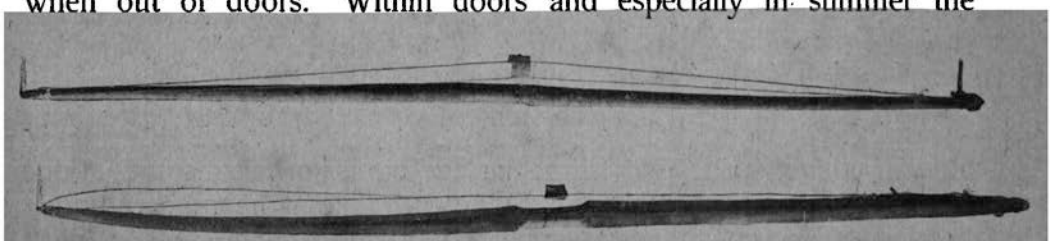
As a curiosity may be mentioned that it makes a Bokhara man smile, seeing a European with a travelling bag hanging on his stomach from a strap round his neck. The only people who carry a bag, a little one of woven stuff in a strap across their shoulder, are namely, as a rule, the beggars. If the bag hangs down behind, it signifies that it is full, or that the person concerned does not want anything. But if it hangs on the stomach, it means that the father of the person concerned is dead, and that he is now under the necessity of begging.

The women's dress consists of a smock, like the men's shirt low at the neck and adorned with strings of different colours. It



Bokharan matchlock (Miltyk) with fork. Nat. Mus. at Copenhagen. Olufsen's Collection.

reaches to the middle of the thigh and has short sleeves. On the shoulders two triangular cloth cases, tumar, hang in strings in which written copies of prayers are kept or passages from the Koran serving as amulettes. The smock is of cotton or silk according to the means of the woman concerned. The smock is stuck into a pair of wide trousers generally of blue, red or white cotton. The trousers are narrowed below and very long, hanging in folds round their ankles. They are fastened by cords in tucks round the waist, the cords often end in long woollen and silk tassels. Over the smock a small jacket of coloured cotton or silk is worn which covers the band of the trousers. Within doors the women often wear a common short man's caftan over the jacket, but in the open air the large square black horse-hair's veil (chasband) is placed before the face and fastened above to a small round kalapush (cotton with a gay braiding or velvet with gold-brocade) that covers the head. Others fasten the veil to a head-dress which with the more well-to-do is of silk and with an edging of gold-brocade round the forehead. Over the whole is thrown the long blue cloak, farandjé, shaped at the top like a sort of hood for covering the head, and below almost reaching the ground. The feet are covered by a pair of kaush like those of the men or by embroidered leather shoes or gold-brocade shoes with pointed toes, or they wear soft leather stockings like the men which they stick into the galoches, when out of doors. Within doors and especially in summer the



Two-stringed bows for shooting with small stones. These are from Vakhan; but the same species was used in the northern Bokharan Pamir valleys during my visit here in 1896. Nat. Mus. at Copenhagen. Olufsen's Collection.

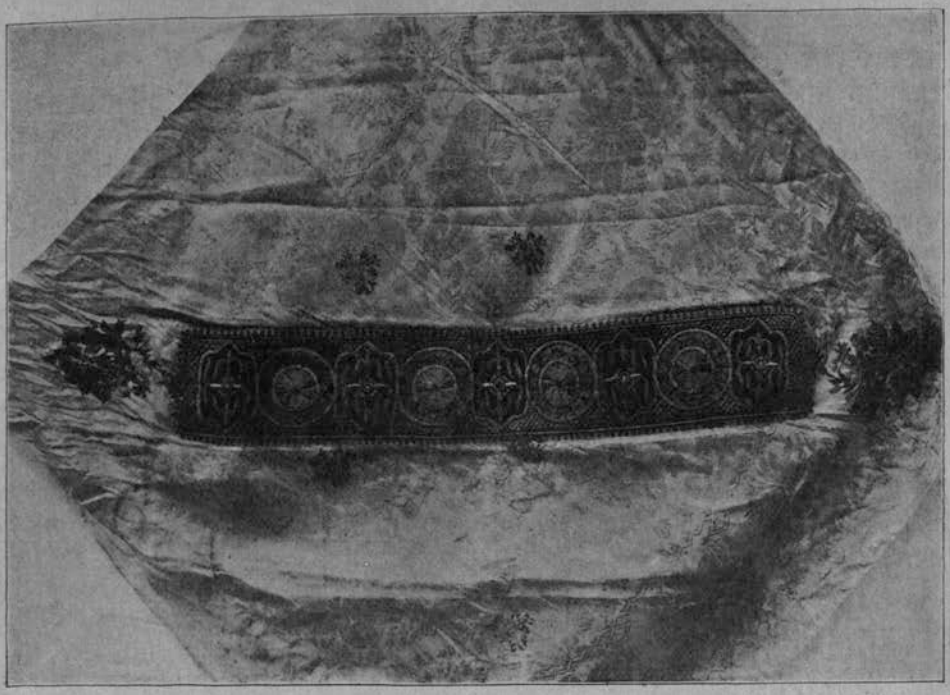
women often wear only a pair of trousers or a light short caftan over the latter. In the country and in the mountains a pair of white cotton trousers and a caftan of the same stuff is generally the whole summer garment of the women. The feet, bare in summer,

Coat of mail, spears and breast-plate hammered in with threads of gold. Nat. Mus. at Copenhagen. Olufsen's Collection.

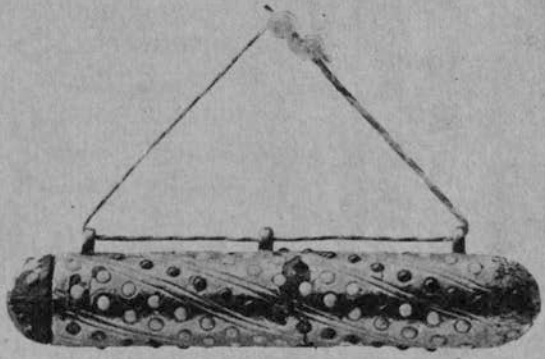
are in winter stuck into short leather boots or into some of the same form as those worn by the men. The women's head-dress in the Pamir valleys and several neighbouring regions is a small white cap not unlike our travelling-caps, or they wear in the country a handkerchief for wrapping about their head, and serving both as

head-dress and for hiding their face on the arrival of strange men. In Shugnan and Roshan the women, as a rule, wear the above named jacket as over-dress and on top of this they throw a shawl over head and shoulders. In winter the women as the men wear fur-cloaks or several caftans lined with thick layers of wadding. It is the rule that the unmarried women are principally dressed in red garments and the married in blue. The women are very fond of painting their cheeks with red dye whilst the eyebrows are blackened and the hair smeared with oil. The unmarried women wear their hair loose down their backs, but the married ones wear it hanging down their backs in four long plaits. As long plaits are considered very beautiful, the length is often added to by plaiting into the hair black woollen strings which end in tassels with silver cylinders and silver ornaments of different colours; sometimes beads of glass, corals or lapis lazuli are strung on the strings. Their weight is often several pounds which one would think very inconvenient wear. As far as they can afford it, the women wear no end of trinkets in the form of hair-pins of gold and silver hanging down coquettishly under the kalapush, necklaces of corals, silver- or gold-plates often wound round the neck a score of times and hanging down upon the breast, heavy neck- and breast-ornaments of silver-plates, on which are precious stones or glass, held together by chains, a doppé of gold or silver fastened on each side of the breast, exceedingly large ear-rings with corals hanging down. Corals (mardyan) are of the greatest value for female ornament; they are brought from China over land, and magnificent specimens both in white and red are seen in all bazars. The more well-to-do women wear on their breast or at the band of their trousers the so-called Bisâthe-kobbá; its upper part resembles the top of the cupola of a mosque, is

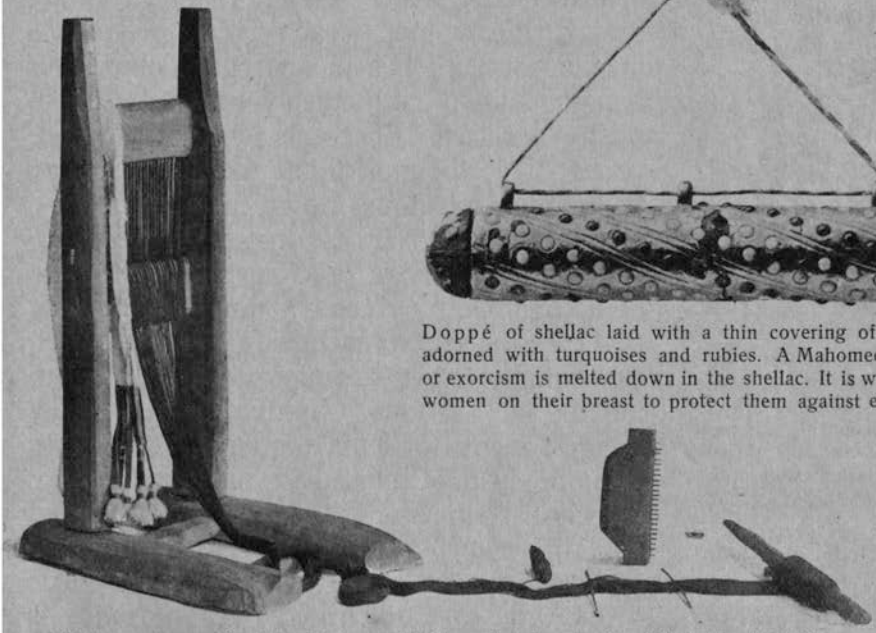
Complete Bokharan woman's dress for out-door use. The long farandjé is drawn away from the head-dress, so that the diadem of gold-brocade may be seen. Nat. Mus. at Copenhagen. Olufsen's Collection.



Woman's head-kerchief of silk with gold-brocade. It is folded together and laid over the head so that the forehead is encircled by the gold band. Nat. Mus. at Copenhagen. Olufsen's Collection.

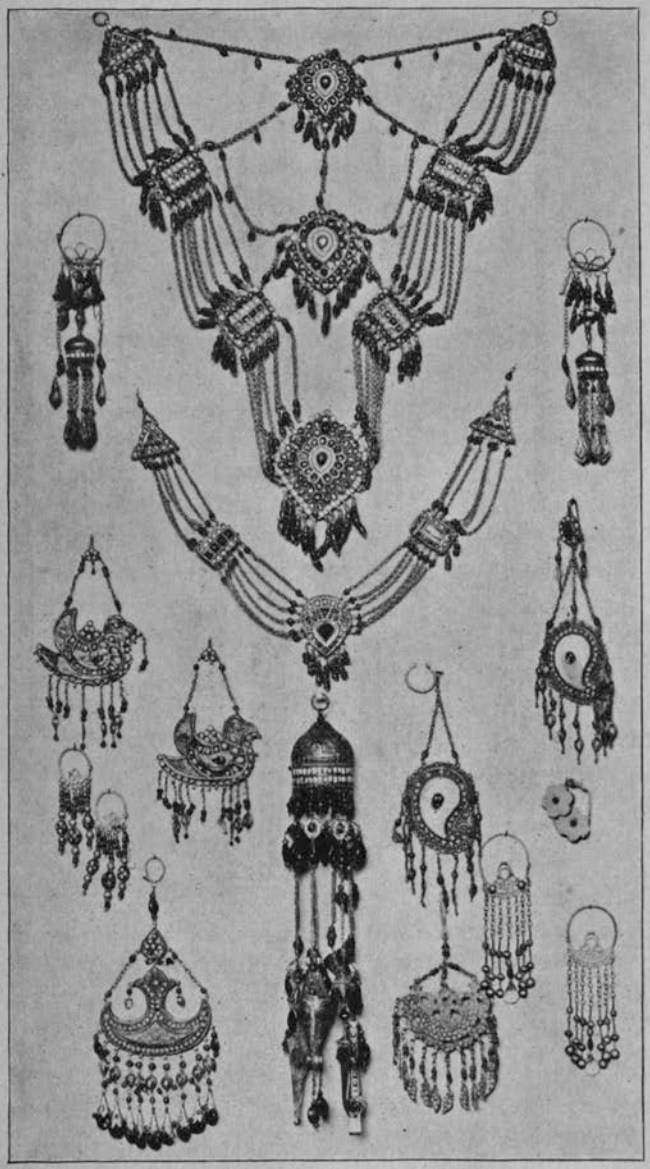


Doppé of shellac laid with a thin covering of gold and adorned with turquoises and rubies. A Mahomedan prayer or exorcism is melted down in the shellac. It is worn by the women on their breast to protect them against evil spirits.



Bokharan loom. On this ribbons and belts and strings to be plaited into the hair are woven. Nat. Mus. at Copenhagen. Olufsen's Collection.

generally of silver and set with turquoises; down from the cupola hang in silver chains tweezers, ear-pick, tooth-picks etc., all of silver.

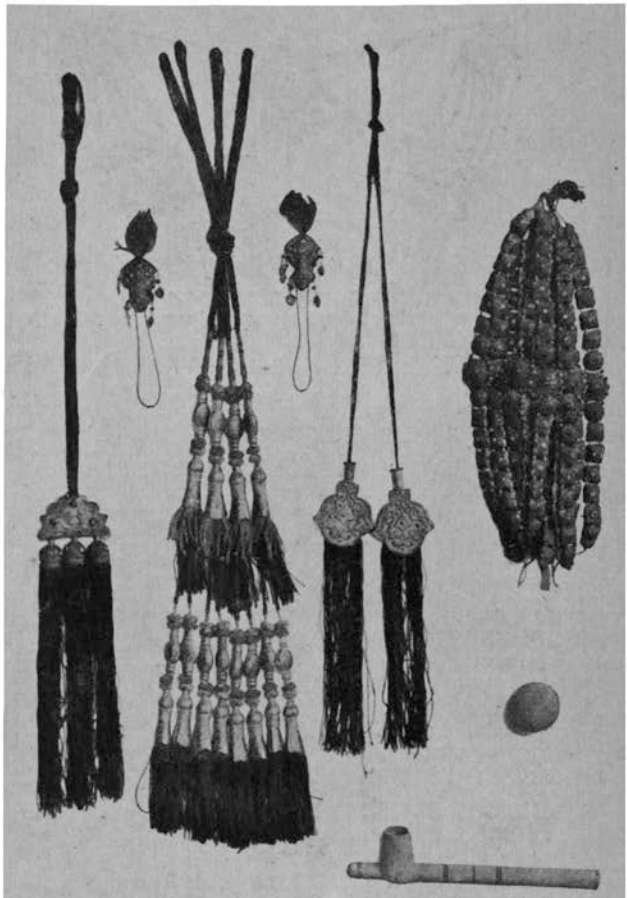


Women's trinkets of silver, partly with covering of gold ornamented with corals, turquoises and other precious stones. The two uppermost in the middle are breast- and neck-ornaments, the lowest one a very rare and beautiful bisâthe-kobbá. The others are ear-ornaments. Nat. Mus. at Copenhagen. Olufsen's Collection.

The poor women in the country and in the mountains wear necklaces of apricot kernels, beads of glass, cherry-stones, roughly cut pieces of lapis lazuli etc. A proper change of fashion is out of the question in Bokhara.

The children are in the main dressed like the adults; during the hottest summer season the boys are often quite naked, their only dress is an amulet, a perforated stone or a piece of horn in a string round the neck. They do not wear turbans until at an age of 10 and 12 years; at Bokhara, however, the small sons of people of quality are often seen with a large turban when younger, which looks extremely funny. As soon as the girls enter the age of maturity, they are kept away from the boys and are not allowed to appear

out of doors without a veil; still, the veiling is not strictly maintained outside the larger towns. They avoid the eye of strange men by flying into the houses, turning away their faces, lying down on the ground or throwing a handkerchief, or whatever they may have at hand over their head; then, indeed, other parts of the body are often laid bare, but they do not seem to care much about this, if only the face is hidden. The hair of the small boys is closely cropped in a strip from the forehead to the nape of the neck, whilst it hangs down in long tufts on the sides of the head. The small girls have their cheeks painted with a red dye; this is hardly ever forgotten, but the cleansing of the head and the longe loose hair, as a rule full of sores and vermins leaves much to be desired. It is a common thing to see two children sitting on the flat roofs and freeing each other from vermins during which process they behave exactly like two monkeys (maimun).



Women's trinkets. The three long black strings with ornaments of silver are used for plaiting into the hair. The two small golden trinkets with peacock's feathers are hair-pins, placed on the sides of the head, so that the trinket turns downward. The bunch to the right is a neck-chain with joined links of gold ornamented with turquoises. The earthen ball and the Persian form of a wooden pipe are children's toys. Nat. Mus. at Copenhagen. Olufsen's Collection.

15.

AGRICULTURE, GARDENING, CULTIVATED PLANTS

AGRICULTURE and gardening can only thrive by means of artificial irrigation. In a few places, for instance in Karategin, the rain can keep a few fields alive, but these regions are so unimportant compared to the whole that we may leave them out of consideration. The old saying that the weather is the real farmer, is not relevant in Bokhara; here all cultivation is attained by irrigating the yellow or yellowish grey loess, and if this is done well, the well-known sentence of Mohammed: "Plant a stick in the yellow earth, water it, and next year you will have a tree," may be said to hold good for Bokhara too. Even the spring rain, which now and then sets in with violent torrents, is not looked upon by the Bokhara man as beneficial owing to its softening the loess so much, that the plants often lose their hold, and because it impedes intercourse to a considerable degree. A winter with plentiful snowfall in the mountains, so that the rivers get plenty of water, is the desire of the agriculturist; for then he only has to keep the canals in order, so that he can lead so much water to each kind of plants as the latter require. If he is skilled in this art that is handed down from father to son, and if he prepares the earth well, the summer may for him be as dry as it likes.

Whereever there is earth, this is favourable to cultivation; the quality depends upon the larger or smaller thickness of the stratum. Especially in the mountains where the loess stratum covers the loose disintegrated mountain rubbish, it is generally very thin, so that the stones can be seen in the fields which adds to the difficulty of preparing the soil and diminishes the proceeds of the harvest contrary to what is the case in the plains or in the broader valleys where the stratum of loess is thick and quite devoid of stones.

As a fact, no other cultivated fields in Bokhara can be taken into account than those irrigated by canals, ariks, cut from the rivers, a sporadical cultivation without canalisation only takes place in low-lying regions here and there at the foot of the mountains, or the natives attempt cultivation in an otherwise dry place after much snow and spring rain, but these latter fields are of very slight importance compared to those of the other kind.

It will be easily seen from the map that the cultivated localities in the mountains are situated on the smaller mountain streams that run down to the main rivers, and only in the plains or lower valleys are the oases found on the main river. When the mountain streams with their strong fall have attained a certain volume, they carry along with them at high water what has been deposited on the banks during the dry season; the water excavates the valleys, frost and water cracks the rocky ground, so that blocks of stone of the size of houses rush down into the river where masses of fine sand are deposited; at low water the sand dries up and, caught by the strong winds which blow through the valleys, it is borne all over the neighbourhood impeding the formation of arable soil on the main rivers. Nor are the natives with their primitive tools able to regulate the rapid mountain streams which would require embankments and locks of a very solid structure. Only in the plain where the Amu, Serafshan etc. slacken their pace, does the primitive canalisation succeed, but even here all the canals are destroyed by the current at very high water, when they become filled with sand from the river or loess from the fields.

A map of a smaller scale seems to show that some villages in the mountains lie close to the main river, but here the map deceives us. The village is always situated at some distance on a smaller tributary by which its fields are watered. The latter are situated on terraces over which the water can flow in ditches cut from the small mountain brook which the inhabitants are able to dam up by means of an easily built dike. The slow current of the water when it streams out over the terrace prevents rough particles from the mountains from being carried along; at most the fine loess is led out over the fields, but the water has time enough to be cleared so that it becomes drinkable too. Most of the tributaries form on their outlet into the main river a delta where the tributary divides into an endless number of arms, but these deltas are always filled by deposits of stones and gravel in such quantities as to render all cultivation impossible. The delta territory of the tribu-

taries has the form of a developed conic surface where the top is at the beginning and the foot on the main river. The whole region is very like material thrown out from a shaft in the rock when the many arms flow out over the curved surface of the half-conus on their way down to the main river.

Both the method of irrigation and the administration are exceedingly old-fashioned; everything goes on as in days of yore, and in this respect, as well as in many others, Bokhara can justly be said to have made no progress during the last thousand years. The principal reason is the arbitrariness of the Government in Bokhara as in other Oriental realms. Nobody has considered his property safe any longer than it pleased the Emir or his dignitaries; for practically all the ground belongs to the Emir, and the right not usurped by the Emirs on account of the large distances between the various parts of the realm, has devolved upon the Begs in the provinces who are even now independent rulers; if only the taxes are paid in due time and abundantly to the Emir, the Begs are never checked by the Government at Bokhara-i-Sherif in using their despotic power.

For this very reason most agriculturists take no more trouble than is strictly necessary, and only for those who are in possession both of the ground and of the power in the country does an intense agriculture pay. The fields and gardens which belong to the Emir, the church property and the more considerable Aksakals in the town are often carefully tended, and the gardens are sometimes real models, abounding with fruit and flowers; for these authorities feel more safe than the common farmer, and, besides, they use their influence to secure privileges of irrigation, so that their fields receive water when it is fit for vegetation, whilst the others are obliged to wait. Some towns or farms have obtained from the Emir a privilege of a fixed amount of water, and then otherwise arable stretches in the neighbourhood cannot be tilled, not because there is not water enough for extending the arable territory, but because the owner of the privilege does not like to be troubled by others in making use of the water.

In the East Bokharan mountains, in Karategin, in the valleys of West Pamir it might at first sight look as if the ground were cultivated with great care on each mountain terrace where there is a layer of earth; but a closer examination shows that extensive arable stretches are not tilled, to say nothing of the large territories in the plain and at the foot of the mountains which could be cultivated

if the Government were more settled and the water turned to profitable account; now, with the primitive irrigation the neighbouring region has not the full benefit of the water.

A modern agriculture with firm embankments, locks and reservoirs and administrated in a fairly just manner would in Bokhara be able to feed a population, at least three times larger or even more. Recently there are several cases where land, formerly waste, has become cultivated by means of canalisation. A modern irrigation would also take advantage of the nether course of the Amu Darya to a much greater extent than now.

According to Shariat the ground comes under two categories, namely the untilled territory (by which the regions are meant that cannot be cultivated or are considered unfit for cultivation) and the arable land. The former belongs to nobody or to everybody, all the inhabitants are allowed to chop or cut wood here or to nomadize where they like. The latter territory is again divided into the still untilled parts and those which have been brought under cultivation. The Government has a right to distribute the uncultivated regions for culture, and the arable land is again divided into ukhri, kheradshi, mamlakat or amilak. Ukhri is the name of the land which in a conquered country has been assigned to brave chiefs and warriors by the Emir. This land pays a tax of one tenth of the crop. Kheradshi is the land delivered up to a conquered people; they pay a tax called kheradsh that is regulated by the yields of the crop. Mamlakat or amilak is land given up to certain special officials, and the tax paid here varies from 20 to 50 per cent of the crop. Mamlakat (Turkish) means realm and amilak office, it is consequently public or official land. Under the latter head comes also the so-called vakuf (church property) whose proceeds go to mosques, schools, monasteries etc., or on the whole to religious purposes. Complete right of possession does not, as a rule, exist, but right of possession and right of use is regulated by such conditions as are thought necessary by the Government (the Emir).

Still, if a person transforms untilled ground into arable land, his property becomes milk (or mulk) i. e. conditional possession, and there are in Bokhara two sorts of milk, namely milk-ur which pays neither tax nor rent and milk-kheradsh which pays a certain rent in money.

The eventual rent is paid in advance, but if the farmer has capital enough to buy seed-corn and if he works with his own animals, he has a right to two thirds of the land and to one half of

the crop at least. All depends, however, upon the discretion of the prince and those in power, there are no written laws as to purchase and right of possession.

Unfortunately for Bokharan farming joint property is prevalent, so that the energy of the single individual is not turned to its full account. The irrigation of a piece of land is, for instance, performed jointly by all shareholders under the orders of an Arik-Aksakal (canal-chief). The Aksakal fixes the size of the area which is to be irrigated and to lie fallow, and the day before this decision the inhabitants are advertised. The distribution of the land is regulated by the number of oxen or draught animals with appertinent agricultural implements that can be supplied. The piece of land set apart for irrigation is divided into units corresponding with the work of two oxen, and this unit is called tshak. To each proprietor of two oxen is given a wooden plate; all the plates are put into a khalat (caftan) by an uninterested man who decides which piece of land shall devolve upon each plate, and each of the shareholders receives the share accruing to his plate. Each proprietor must now partake in the irrigation with as many oxen as the number of tshaks he has got, and even if his portion is to lie fallow, the proprietor must dig a canal for it at his own expense.

The canalisation and the damming up of the water from the rivers is most primitive. In the small villages in the mountains which lie in a continued line down along the river the water is led over the terraces by a small obstacle formed of stones being placed in the river; thus part of the water is forced into a small canal and spread out over fields and gardens in smaller ditches; the superfluous water runs farther down to the kishlaks situated below in each of which there is a small dike, and thus it goes on until the water conveyed by the river is often consumed before the latter reaches its outlet. If the inhabitants do not want the water to run across the oasis, part of the bar is simply withdrawn. It is, however, far from being the rule that the arable land lies close to the river; sometimes the water has to be led a long distance over rocky territories, before it reaches the fields; the canal cut from the river has therefore to be constructed of flat pieces of slate and clay which forms a ditch in which the water is led to the kishlak. Such primitively built minor canals are often seen in the mountains winding along almost inaccessible slopes, and their construction requires much labour.

When larger oases have to be irrigated, both dike and canal are, of course, made on a larger scale, but the primitiveness is

the same. The dikes both in the large valley-oases and in the oases in the plain are built of loose stones, clay, bunches of rice or tamarisks, even the large dike on the junction of the Ak-Darya and the Kara-Darya is erected in this way. Where artificial pressure is necessary to drive the water into the canals of the second and third order, the structure of the embankment in the plain must often be very extensive and high, and in spite of the considerable labour involved here, locks are not built; to make the water run over the oasis part of the dike is broken down, and then loess and sand rush in together with the water and fouls the canals which have to be cleansed after the dike has been repaired; only the principal larger ariks have dikes.

As a rule, each oasis has its main canal in the building and repair of which all must share; from this canals of the second order lead to a number of lots of ground and then canals of the third order to each property. The importance of the water becomes evident from the fact that the canals have generally particular names, and the ground is often taxed in proportion to the quantity of water given to a certain piece of ground. The best ariks are, of course, in the possession of the clergy (vakuf) and the highest dignitaries, and the castles and gardens of the Emir and the Begs are first supplied with water.

On crossing an oasis with its intricate net of large and small canals, ditches and drains by which the territory is traversed, one becomes aware of the great difficulties involved in the building of the canals and the distribution of water. A town is often supplied with water by one single canal from which each man gets water by rotation, 10 and 15 villages have sometimes to be watered, each by rotation, in the course of few days, and in some places the water runs through a canal, about 30 kilometres long, before reaching the cultivated fields. A small canal of a breadth of about 1 foot is considered sufficient to irrigate 2 tanaps of land (1 tanap = 0,37 hectar), and 500 litres of water to each pound of corn reaped.

From times of old all matters concerning irrigation sort under a special official department. In the oasis of Bokhara itself there is a Secretary for the Irrigation Department, Mir-âb (Water Prince) elected by the Emir; Mir-âb or Mir-ab administrates the whole net of canals with full authority, and nothing can be done without his sanction. He resides in the oasis of Bokhara, and there are various officials under him; principally a "Makhram", as is the case with all official persons of rank in Bokhara. The Emir has several Makhrams who

are a sort of chamberlains, the Begs in the provinces have their Makhram, a sort of second in command and often the real ruler on his master's account. The word Makhram is derived from the Arab Mahrem which means confidant or trusted agent and is very well chosen, as a Makhram has to do with his master's most intimate affairs, for instance the supplying of his harem.

Under Mir-âb are also the so-called Pandshbegis (from Pandsh = 5 and Beg = commander); the word is, no doubt, due to the fact that when the natives build the canals, the work is divided into 5 parts. The Pandshbegis are selected by Mir-âb and are, as a rule, his relations and friends. The latter distribute the water over a certain lot of ground and sell the possible surplus at a price fixed by themselves, and if Mir-âb gets his share of the money, he grants a license for the use of the water. Under the Pandshbegis who come directly under Mir-âb are the Arbobs who are elected by the population. (The word Arbob is according to some authors derived from the Arab word erbab, expert, but Bokhara people explained to me that the proper word was Harbob meaning "in all respects", as an Arbob has various duties besides the managing of the canals; he has, for instance, to take care that strangers and travellers arriving at the oasis obtain the necessary provisions, beasts of burden and porters.) The Arbobs have also their seconds in command who are called Dyumbân or Dyumban.

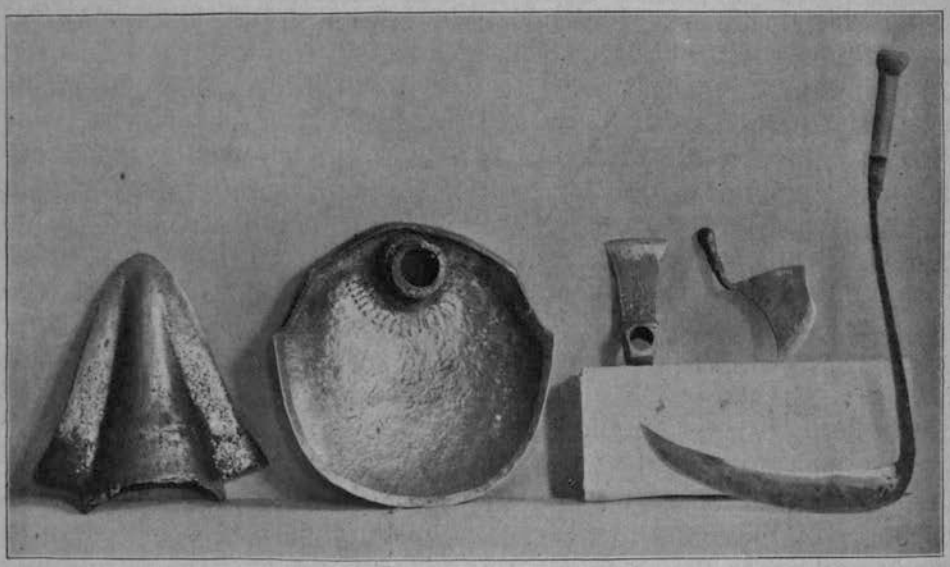
In smaller oases the Arik-Aksakals administrate the canals and the distribution of water, and they can every day call out the inhabitants of the oasis to assist in regulating the water in the main canals and repair the canals. If any doubt arises, all farmers assemble with the Aksakal to settle the affair.

The occurrence of spring in Bokhara is a great event; then both the Emir and many of his dignitaries often appear at the main canals and the dikes which are to be cleansed and repaired after the destructions of winter. Before the arrival of these gentlemen the Emir has issued an order of Mardyvaliat i. e. the Emir has issued a Firman which grants a license to enlist people for service. All the shareholders of the lots of ground adjacent to the canals can be enlisted by the Arbobs, and if they do not appear, they are obliged to pay some Tengi a day to the latter. When the order of Mardyvaliat has been issued, the Raïs is despatched to inspect on the Emir's account whether things are all right; the Makhram of Mir-âb has the superintendence of those who serve.

Only the large canals are dug by public labour, the inhabitants

take care of the smaller which lead to their towns and farms. In spring they first enlarge and cleanse the canals of the second and third order and finally the largest, and then the farmers get water immediately after the bar has been taken away. The earth is carried off in caftans and baskets, and the tool is the hoe (something between a hoe and a spade or shovel, as the broad, rounded blade is at right angles with the handle).

It is not easy to administrate the canals, especially when there is not much water, and even if there is plenty, continual quarrels



From the left to the right: coulter, shovel of a spade, ax, knife for cutting straps of hides and sickle for reaping corn. Nat. Mus. at Copenhagen. Olufsen's Collection.

arise; the lots of ground nearest the canals often get too much water which checks growth, one knows that by experience, and if the water stagnates in the fields, it causes formations of salt which injure the corn to a great extent. One knows also by experience that a field with proper canals only requires one hour's irrigation a day. If it gets more, it becomes one slush of mud. It is necessary to be aware of the quality of one's loess earth and of its capillarity. When there is water enough, the Arik-Aksakals in the smaller oases have all fields irrigated twice a week in rotation, and those who do not want more water block their canal. The most important ariks have water all the year round, but in October

it often runs short in the secondary ariks, and these remain dry until spring. In autumn all the small canals are blocked by embankments, so that the water only runs in the larger. During the cold period in the mountains several kishlaks have often only one small, rapid mountain brook between them from which they can get water.

The agricultural implements are very antiquated and primitive. The plough (sabân) consists of two trunks of trees; the back slanting part is shod with iron for making a furrow in the earth; the front part is notched into this and fastened by an osier-band to a yoke which rests on the necks of the team. The latter is, as a rule, two oxen, but donkeys or horses are also frequently employed, or a camel and a horse or an ox; the latter combination looks exceedingly funny. There being no cutter and board for turning the earth, the plough can only make a furrow in the loess and to make the latter somewhat loose, the natives plough innumerable times in all directions. Later on they work in the field with the hoe; the clods of earth are crushed with a club. In many places in the level country they plough in the night to avoid the heat. In some regions and especially in the mountains ploughs are not known, but only the hoe and the clod-club. I have only observed harrowing in a single place in the Pamir valleys where an ox drew a large wooden rake across the field. Among other agricultural implements there are two-pronged wooden forks, a sort of wooden shovels in which the blade and the long handle are continuous and which are used for cleansing the smaller canals, further a rake or sort of rake whose branches and long handle are continuous; the latter is also used to cleanse the smaller canals, especially to pick up leaves and straws which impede the free run of the water.

The ax (ai-balta) is employed to clear away tree-roots and fell trees; like the hoe it is typical of extensive parts of Asia and Africa; it is remarkable in that the blade and the handle are athwart of each other.

The various species af grain are not grown alternately according to a regular system, and manure is not employed, except that it is laid in the hole where some plants are put, or a little manure is laid round the trunks of trees, but even this way of manuring is rare. The natives act from their experience as regards the alternation of the various species of grain. In some places, for instance, lucerne is grown in the same fields in 4 consecutive years, and then immediately after melons and pumpkins, and then winter wheat, the latter in some places twice. In other places they have the system

of two and three fields in rotation, and in some regions they always cultivate the same species of grain.

One thing is very injurious to the ariculturist in Bokhara, namely the salt which is everywhere apt to appear, and in the mountains the wide grass-fields often shine and smell of salt which fills the grass-tufts like hoar frost.

To give an idea of the quantity of arable land which is necessary to support a family, I shall only observe that a man who possesses 400 tanaps of land is a great and rich farmer. A tanap is divided into 60 □ gaz (1 gaz is about $1^1/_2$ arshin, Russian).

Wheat is among the most important species of grain, being the bread-corn of Bokhara; it is grown as winter wheat in the irrigated fields and as summer wheat in those which are not irrigated. Barley is also grown; there are various species and in the mountains wheat is often replaced by barley, but in the level country and the rich valleys the latter is used as fodder; it has one good quality, that it does not require much water.

Rice plays a very great part, but it thrives only in the best regions and only in the level country. It requires much water. The Bokharan proverb says that the rice must have water three times; it grows in water, boils in water and is washed down with water. The great irrigation of the rice-fields causes Malaria, and its cultivation is therefore often restricted in densely populated regions. Fields where rice is to be grown are always one slush of mud which reaches the waist of the plough-man when he wades there with his oxen. Rice is sown in April, and at this time especially it has to be watered very much; the harvest is in September. In the regions north of the mountains rice is not grown below Kermineh, and according to the natives it has not been grown farther west. The Bokharan rice is smaller and not so white as the Persian, but it is very plentiful, so that the country cannot only provide itself with rice, but even export to Persia and Europe.

The so-called djugaré or durra (sorghum cornuum) is grown in the fields set apart for summer grain. It thrives exceedingly well, nothing looks so luxuriant as the gigantic durra which resembles maize but lacks the cobs. It gives a very good crop, takes up to 6 months to ripen and must be watered 3 to 6 times. The seed is only used as food by the very poorest, otherwise it is used as fodder for horses and poultry. In June the young plants are often cut off for fodder. The stem is used as fodder, fuel and for making mats.

The lucerne (Medicago sativa) whose green stems and leaves and red heads enliven the Bokharan field very much is grown to a great extent in the level country and in the low fertile valleys. It is exclusively used as fodder. It is grown in good fields for 10 and 12 consecutive years, and if it is watered much it can be reaped 6 times a summer.

Sesame (especially Sesamum Indicum) is one of the typical plants of Bokhara. It is grown nearly everywhere, does not require much water and follows the winter grain as the second species of grain. The stem is used as fuel and oil is pressed from the seeds. Poor people use the latter instead of fat or butter to mix with their rice when preparing the national dish, pillau.

Millet is the bread-corn of the poor. It is also used for porridge and milk-pottage and is sometimes burned like coffee-beans among the mountain population. In the latter case it is said to have a peculiar stimulating effect, but is also pernicious in a similar, but less degree than opium. It does not require much water and thrives in the highest cultivated places in all mountain regions in Bokhara; it is also grown by the nomads in otherwise uncultivated places. It is often sown in fields where the winter wheat has been reaped.

Vetches and poppies are also common and many species of beans, especially Perastalus mungo which does not require much water. The fruits are used as human food and the straw as fodder.

Cotton is cultivated nearly everywhere and by everybody; I have seen small cotton-fields as far up as Garan; but the plants attained a slight height, were few and far between and yielded a bad harvest. The cotton which is not woven in Bokhara is exported to Russia, and although the cotton cultivation is computed only to cover the needs of the country, there has of late been exported to the value of about $1^1/_2$ million poods to Russia annually. It is pressed by hand. The refuse is used as fuel; in small mills which are drawn by an old worn out horse it is ground to porridge and shaped like a sort of patent fuel.

Hemp, kendir, is also grown everywhere in Bokhara. It thrives well and like the durra it is much higher than a man's height; it is employed for ropes and mats and for stuffs; the latter are glazed with a finish by the aid of a glass-ball which is placed at the end of a beam which hangs down from the ceiling. The stuff is laid on an even wooden board, and the movable beam is carried to

and fro, so that the glass-ball continually rubs the stuff. In this way the latter assumes a striking likeness to silk and is much used for skull-caps, as it is very strong.

There is an extensive tobacco cultivation in Bokhara, and the tobacco is, as a rule, excellent. But it cannot grow everywhere and not very high up in the mountains. Where there is salt in the soil, it is bad. The best tobacco is grown near Karshi and in the neighbourhood of Katta-Kurgan. For the large water-pipes of the natives the leaves are cut into pieces as large as cherry leaves, but the Russians have now established manufactories in Kerki where tobacco is prepared for European use.

One of the most typical useful plants in Bokhara is the melon; rice and melon are among the articles of food most highly valued, and melon, bread and tea are in many places in summer the only food of the Bokhara man. It thrives everywhere, but not so well in the higher mountain valleys as in the plains. The melons of Khiva are said to be the best in the world, but those of Bokhara come very near to them. They are of an excellent flavour and are so plentiful that they are sold for a trifle.

There are two species of melon, one earlier of oblong shape, kaun, and one later, samtsha, smaller and round; there are also varieties of these. The former ripens in June, but is not so good as the latter which ripens in July; they are kept all the year round suspended by hemp, so as not to touch one another. The melon-plants are generally manured; some manure is placed in the holes where several seeds are laid. They are not watered until the plant comes up.

The water-melon, karbus, is also extensively cultivated; it is so large that it is as much as a man can carry. It is not good before September, when the inside is pink and the seeds black. It is the most delicious food conceivable and very refreshing; one water-melon yields a good portion to 15—20 people.

Besides melons pumpkins, kaduh, of which there are 9 various sorts, are cultivated. The pumpkin is hardier than the melon and grows in the highest regions in the Bokharan Pamir provinces, but in the highest places only in the gardens along the stone-fences. They are used both in the raw and boiled state, especially the latter, for human food, and also dried for the kaliân or kalian, nos-kaduh, for water-buckets and for keeping articles of food.

Among other useful plants cultivated in fields outside the gardens

proper may be mentioned carrots (markob), onions (pias or piâs), turnips, peas, lentels, radishes, cucumbers and cabbage. Potatoes are unknown.

Gardening plays a great part everywhere, the orchards especially are well cared for. In the level country and the low, fertile valleys vegetables grow in the fields, but in the mountains the soil of the fields is generally not suitable for vegetables which are therefore cultivated in the gardens; the latter can namely be more carefully tended than the fields and are also sheltered by dikes and hedges from the keen winds.

Orchards are found everywhere where there is agriculture, in the fertile oases in the plain and in the smallest kishlak in Vakhan and Garan. In the level country and in the large valleys there are, so to speak, woods of cultivated fruit-trees, and many species also grow wild. The fruit (miva) both fresh and dried are very valuable articles of food.

The flower gardens are also highly appreciated, even the poorest farmer grows some flowers near his hut, and the men like to stick a flower into their turbans, or they very often place it below their head-gear with the stalk turned upward, so that the flower hangs down on one side of their head. On arriving as a welcome guest it is very usual to have fresh flowers placed in one's tent every morning.

A man's wealth can generally be judged of from the size of his orchard (bâgh or bâghtshe) on which he spends a great deal. Where it is possible, a square pond framed with planks is laid out in the garden which is traversed by pretty little canals in which water is led round under the shady trees. Clay-mounds are formed round the larger trees, and here carpets are spread to lie upon, for these places in the garden are favourite resting-places by night and by day; as mentioned above some people have a sort of punkahs driven by the water, and bowers and walks in the gardens are covered by vines and other creepers.

Kishlaks and towns are surrounded by willows and poplars, but the gardens are generally fenced round by white poplars or the so-called djigda which carries a yellow mealy fruit somewhat like that of the hawthorn, but of the size of a large cherry. It is collected in autumn, is dried and used as flour or is eaten boiled by the poor.

The most common fruit-trees in the gardens are apple, pear,

quince, apricot, peach, plum, cherry, figs, pomegranates, mulberries, almonds and the vine.

Apples (alma or olma) and pears (armud, vulgarly armarud) are, on the whole, not good in the level country, being small and too sweet; they are much better in the mountains, but the apples and pears in Bokhara are not very good; both fruits grow wild in the mountains, but are not savoury. There are several species of both.

Quinces (aiva) are very much cultivated and highly appreciated as an ingredient in pillau. Otherwise carrots are generally used for this dish, but quinces are considered to be a greater delicacy.

Peaches (shaftalu), apricots (uruk) and plums are excellent. The apricot, of which there are 3 species, thrives up to the highest cultivated valleys on the Pandsh and the Shakhdarra, but the peach does not grow higher up than the valley of Shugnan on the Pandsh, and the same is the case with the plums, of which there are both yellow and blue. The cherries are also excellent; they do not grow higher up than Darvas and Roshan.

The fig-tree grows nearly everywhere, but in the Pamir provinces I have not found it farther up than Darvas. There are two species: the large yellow, somewhat flattened and very sweet fig that grows on smaller trees in well tended gardens and the rougher, greyish fig of the shape of a Lammas pear; the tree of the latter often attains gigantic dimensions and is more unpretending than the former. But fig-trees, especially the former, require much water, principally during the fruit-season. The fruits ripen at the beginning of August.

A highly valued fruit is the pomegranate which is eaten much in summer as a refreshment. The tree prefers sand to grow in, and requires much water, nearly every tenth day it has to be flooded. It flowers in April, and the fruits ripen in September or October. The best are derived from Shahr-i-sebbs, but the trees thrive well even in Darvas and Karategin.

The mulberry-tree is one of the most typical trees of Bokhara; it grows everywhere, thrives excellently and yields an abundant quantity of fruits. In many places it grows wild. The fruit (tut) both of the white and black tree is ground into flour and used instead of sugar and the white mulberry-tree is employed in the silk culture which like the cotton cultivation has been known from time immemorial in Bokhara. The Bokharan silkworm is of great value.

The larvæ are mostly foddered in the dwellings or in special sheds. They are tended by women and children. The eggs are placed in small bags and hatched on the breast, and the larvæ are either placed on the ground or in baskets which are hung up on poles, but, on the whole, the tending is very primitive. A sort of treacle is also made from the mulberry.

Another sweetening stuff which takes the place of sugar and is used for sweetmeats is derived from the camelthorn (khari-shutur). At the end of August when it is in blossom, it is in the morning, as it were, covered with dew. This dew which is called turunjubin is shaken off into a piece of cloth and used as sugar.

The almond-tree grows everywhere and thrives up to Kalai Khumb. It is one of the first fruit-trees to blossom and indicates the arrival of the actual spring.

Grapes (angur in Tadjik, üzüm in Usbegic) thrive even in Roshan, but are not good farther than Darvas; they are cultivated on poles and trained up walls, dikes and trees. There are 13 various species of blue and green grapes; both the small kishmish or currant grape and very large grapes. The best way of planting is to plant the grapes half in clay and half in sand, and they require very much water. They are cultivated in great quantities, are very cheap and can be bought all the year round. A sort of treacle (shirin), vinegar and raisins are made from them. Only the Jews make wine from the grape, but this is very bad. Of late Frenchmen have settled at Karakul and New Bokhara and make an excellent wine which cannot, however, be exported, but has to be drunk fresh.

From the creeping roots of the vine a red dye is made, but madder is also cultivated, whereas indigo is imported. Dye-stuff is also obtained from a small yellow flower called es-baruk which grows in great quantities in the oasis of Karshi, and from a larve which appears on a plant called atjek-buy on the banks of the Oxus.

Among other garden trees can be named the pistachio and the walnut-tree; still these grow mostly wild in the woods, the former only up to Darvas and Roshan, the latter even up to the highest regions of Vakhan.

As mentioned above vegetables are grown in the fields of the level country and the more fertile oases, but in the larger and better orchards there is also a small vegetable garden where cultivation is carried on more intensely; here especially tomatoes,

Guinea-pepper and finer peas are cultivated, to say nothing of opium-poppies.

Besides fruit culture there is flower culture. In the low valleys and in the plain there are many flowering plants, especially roses, jessamines, peonies, tulips, narcissi, lilies, carnations, marigolds and many others; the two latter species grow in the poorest small gardens in the highest regions of Vakhan together with the poppies.

16.

TOWNS

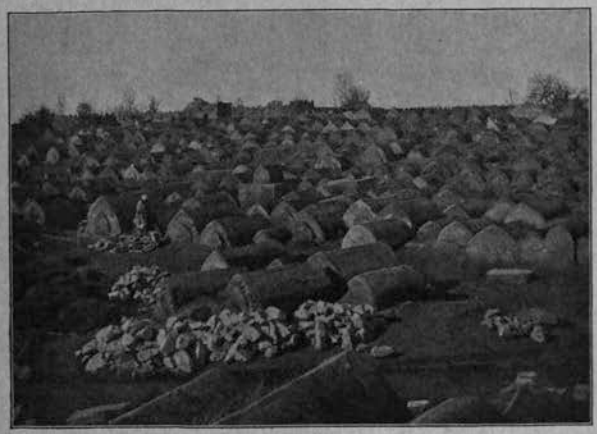
THE residence of Bokhara-i-Sherif. About 11 versts north-west of the Transcaspian railway line is the capital and residence of the Emirate, Bokhara-i-Sherif, Noble Bokhara, the official name of the town. As in the towns of Bokhara and Khiva on the whole, the original old-fashioned character still prevails, but few traces of Europeism encroach upon the style which the town has had as long as Islam has shrouded Central Asia. The railway makes a large curve round the town which one would think had been destined for a station town, but the Emir is said to have besought the Russians to let Shaitan-Arba (the carriage of Satan) pass by the town at a respectful distance in order not to pollute it; according to others it was owing to the many canals and the numerous bridges which would have been necessary that the railway was built at some distance from the edge of the oasis of Bokhara. Both causes were, no doubt, concurrent. Whether the Emir has had one or the other objection, suffice it to say, that out of regard to the fanaticism of the natives, attack on the railway etc. the Russians have considered it diplomatically wise to let the railway run at a good distance from the town. The Russian railway-station where one alights, and the name of which is New Bokhara is built in Oriental style with cupolae and small minarets which are in harmony with the Oriental air which one inhales, especially after traversing the Oxus from the west. The neighbourhood of the station is flat, tedious and desolate. In the colony of New Bokhara which has about 3000 inhabitants the Russian houses, built in European style, are scattered on the plain, their centre being the political agency. Apart from a few plantations of acacias beside the muddy loess-ditches through which the water is led to the habitations, practically no vegetation is seen, the streets are a bottomless mire during the wet season and resemble

frozen plough-fields during the dry. In summer the sun burns with irresistible force down upon the flat plain where the salt shines everywhere on the surface of the loess. No wonder, that my first thought on arriving at the station was: On what do all these people live who swarm here by hundreds on the arrival of the trains? — The Russians are not farmers, but business men, and the native merchants in their picturesque dresses whose dense crowds enliven the desolate plain have all come up from the old capital, being now aware of the advantage of employing the carriage of Satan. At the station are an endless number of small Russian carriages, driven by native coachmen, which may be used on going up to the capital, and numerous Bokharan arbas for the carriage of goods. The station town has a few primitive Russian hotels or inns, where one can live, or, to put it more correctly, where those who are not guests of the Emir must live, there being no European quarter at Old Bokhara. I had, however, no use for any of these, for, on my arrival, I was always invited to be the guest of the Emir. A few times out of the eight I have been in the town of Bokhara I did not accept the invitation, preferring to stay in the saloon carriage which had been placed at my disposal by the Russian Government; I then every day drove up to the town. But otherwise the emissaries of the Emir with a large attendance took me and my baggage to the residence where the palace or house of Ilti-khanéh (Foreigners' Palace or Embassy) with appertinent staff of servants was placed at my disposal. At New Bokhara there is an excellent chemist's shop in the possession of the well-known Peter Reinhardt who has rendered invaluable services both to my expeditions and numerous others in being intermediary between us and the Russian and Bokharan authorities with whom he was very intimate.

The macadam-road leading from the station to Bokhara and laid out by the Russians traverses an exceedingly flat territory, at first even desolate and uncultivated, but about half-way begins the fertile Bokhara oasis; one comes across some villages with fields and gardens with shady elms, willows and many sorts of fruit-trees. In the kishlak one halts to water the horses, and after some Bokharan Puls have been thrown into the drinking-trough, we continue our way through cultivated fields passing the high, grey clay-walls of the Emir's palace, Shehrbedén, where we see a Bokharan guard of 3 and 4 men under the shade of mighty poplars from whose tops the hoarse cries of myriads of crows are always heard.

As yet nothing is seen of the town itself, which does not become visible until one is quite near. We first traverse a small suburb with primitive bazars where fruit and articles of food are sold, and then, finally, we see just in front of us the crenelated walls through which access is gained by a narrow gate flanked by two conical towers or bastions.

The road from the station to Bokhara is always thronged by travellers who present an extremely picturesque sight. Camels and dromedaries in long caravans solemnly drag along their heavy bales, hundreds of small donkeys loaded with hay or charcoal trip along, two-wheeled arbas creaking and groaning in all their joints find their way with difficulty among the numerous riders who in many coloured caftans and with white turbans always gallop to and fro on this road, veiled women timidly trudge along on the edge of the road or ride on a small donkey, generally with husband and child behind them on the small animal whose legs, in spite of a burden of three persons, move as quickly as drumsticks.



Burial ground outside the walls of Bokhara; in the background the town-wall.

The fields beside the road look fresh and pleasant in early summer. The flowers of lucerne remind one of clover fields, sesame, tobacco and wheat-fields are seen everywhere, and the air is full of odour from the flowers of the many fruit-trees. But the splendour of the scenery is, as a rule, spoiled by the suffocating loess dust which rises in heavy clouds from the road into the generally calm air.

To the right of the entrance gate is an extensive burial ground where hundreds and hundreds of pointed earthen sarcophagi are built in stories one above the other to the top of the wall; for space has by degrees become too narrow here, and the great thing is to save the soil of the oasis. Rumpled yak-ox tails and variously coloured flags wave above the resting places of the dead which

look strange and unpleasant being filled with crows and stray dogs; and this impression is not improved by the stench that issues from the tombs which have collapsed or have been opened by dogs or jackals.

In the entrance gate we observe some large spikes or wall-hooks in the barbacans. I asked the old Tokhsabashi who appeared here on horseback with his attendants to welcome me on the part of

Entrance gate to Bokhara, the road from New Bokhara.

the Divambegi to the gates of the town whether people were hung on these spikes: "Not any more," was his answer.

Our carriages with the picturesque escort before and behind us traverse the gate whose strong doors of apricot wood have been thrown back; the guard (Körbashi from körmak = to see) placed in the barbacans and armed with sword, spear and old matchlocks get up drowsily on our passing by, and through narrow, meandering streets we disappear into a labyrinth of clay-houses, until we end at last in a narrow lane where a diminutive door leads into a large yard with four beautiful wings; this is the palace of the Emir, Ilti-khanéh. In this Ilti-khanéh I sometimes spent several months during the years 1896, 97, 98 and 99 together with my compa-

nions on my journeys in Mid Asia and Pamir. From here we made our excursions to all nooks and corners of the town to become acquainted with life and customs in this centre of fanaticism, so feared only a few years ago.

The name of "Bokhara" or "Bukhar" has been thought to be derived from the Sanskrit word "Vihara", meaning a society of wise men or a monastery, which suggests that Buddhism had made its way here from India, but nothing can be stated with certainty as to the meaning of the word.

For the origin of the town we have only uncertain hypotheses, history fails us on this point. Excavations, totally neglected in these parts of Asia, will, no doubt, be able to set us right. As a rule Bokhara is said to be a comparatively young town, but this is certainly not the case.

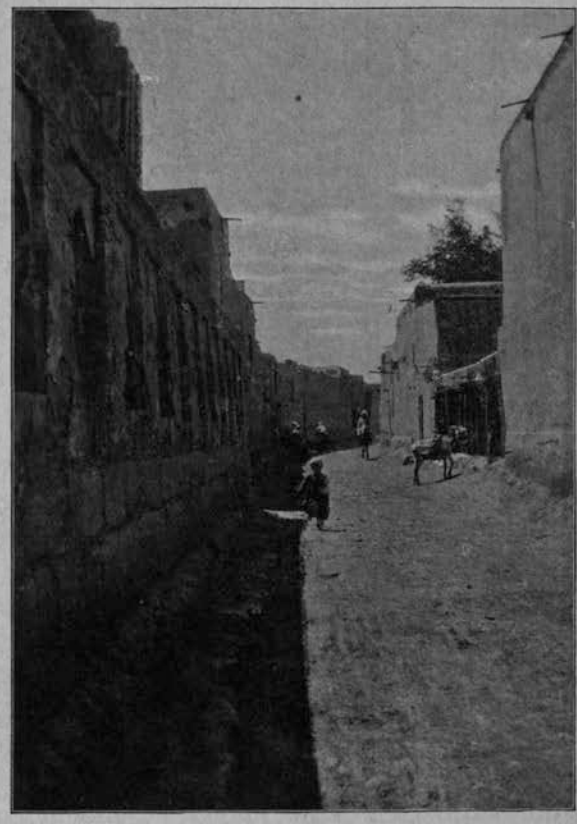
Thus we know that in 240 after Hedshra merchants, coming up from Bokhara to Bagdad, told that they were from Beikund whose remnants of canals, houses and walls are situated near the lake of Karakul which is also called Bargin-i-firakh (the large lake). This Beikund or Bikand is said to have been a considerable commercial town, the water supply seems to have been very extensive, and it is described as being older than Bokhara and as having had a thousand Rabat or villages; Arslan Khan is said to have built a palace there and to have greatly extended the net of canals. Beikund seems to have been erected on a hill; but probably this was only the castle of residence; still, it is possible that the houses were raised above the surrounding territory which was better irrigated at that time than now.

Abdul Hasan speaks of the castle of Ramatin as being much older than Bokhara and as the residence of the princes. Here resided the mythical Afrasiab on his arrival in Transoxania. Among the large castles he names Verekhsheh or Redshfendun that had 12 ariks. He praises the beauty of the country and especially the palace which had been built by a certain Bukhar-Khudat.

One of the canals, Rud-i-Chapurgam, irrigating the oasis of Bokhara is said to have been built by a son of Kosroës of the dynasty of the Sassanides. On his arrival at Sogdiana he was well received by Khudat who charged him with building a canal; he erected the village of Verdanéh where Chapur resided after whom the canal is said to have been named. He left a fertile oasis to his sons, and on the well-known Kuteïbe-bin-Muslim arriving at Bokhara, Verdan-Khudat, a son of Chapur, reigned here.

According to the legend Alexander the Great has founded Bokhara, but much is laid to his charge in Central Asia; he may possibly have traversed these regions; in the village of Ura-tübé east of Samarkand which I visited in 1896, remnants of walls are still shown which according to the legend owe their existence to Alexander the Great; it is difficult to prove whether this is correct, but the province of Sogd or Sogdiana was, indeed, under the Greek sceptre for a long time after Alexander the Great.

The spot where Bokhara is situated now is described by Narshakhi as a fenny lake overgrown with reeds, wood and jungle. In some places even a camel could not wade across the water. This accumulation of water was due to the snow thawing in the mountains near Samarkand and forming a large river, Mazaf, running past Samarkand. This river conveyed much mire which was deposited in the fens of Bokhara and filled them, so that they could be inhabited. The place was called Sogd and here Bokhara was built.



Main street in Bokhara.

According to legends from the time of Abdullah-Khan (16th century) the oasis of Bokhara was formerly watered both by the Syr Darya and the Serafshan, which was then much larger than now, and we know, indeed, that old canals can be traced in the steppes all round suggesting a previously greater agriculture.

As it is evident now that the Syr and Amu Darya constantly move towards the east, and as the newest researches seem to show, even if they do not prove, that the climate of Inner Asia has changed

from one colder and more humid to one more dry and warm, then the presumption seems to be near that there were irrigated fertile oases along the whole course of the Serafshan as far as the Amu Darya, and according as the quantity of water was reduced, the oases situated farthest down on the Serafshan have first become extinct, thus Beikund, if, on the whole, this place-name can be reckoned with. From the topographical conditions it does not at all seem to appear that there should not have been a well irrigated oasis, where Bokhara is now, at the same time as fertile oases existed on the outlet of the Serafshan. Probability goes to show the contrary, as irrigation from that part of the Serafshan where Bokhara is situated must have been much easier than where the arms of the river become lost in the sand to the west of Karakul; for it is well known that, on expiring, the Central Asiatic rivers always end in salt fens and pools generally grown with reeds; according to the varying height of the water the latter are now dry and now miry, and it would be difficult for a town to develop upon such a place. The period when the Serafshan has possibly poured its waters into the Amu has, of course, been more favourable to the development of a large town on this outlet, but this period belongs to the history of geology and dates as far back as at least 4 and 5000 years, if not still more. On estimating the present capital at about 2500 years, we do not certainly exaggerate its age.

Old Chinese works might possibly give information of the older history of the residence, for we know that before the Christian era, for instance under the Han-Dynasti 163 B. C.—196 A. D., the Chinese exercised a considerable influence on the countries from Gobi as far as the Caspian, thus on Turkestan, Bokhara and Khiva, and that the religion of Buddha reached the banks of the Serafshan during the first centuries of the Christian era. Narshakhi also speaks of an emperor's daughter from China, bringing with her household gods to the castle of Ramatin, and we know that the renowned Chinese traveller, Tshan Tsiang, visited Bokhara in the second century B. C.

At the middle of the 7th century Bokhara falls into the hands of the Arabs, and Islam is introduced with severity by Kuteïbe-bin-Muslin who died in 714. In the years 714—874 Bokhara becomes subject to Khorassan, to which place the Califs of Bagdad and Damascus send their Governors, but still retains its own Emir. From 874—907 Bokhara attains a very advanced position among the realms of Asia under the Persian Sassanide dynasty, the town of

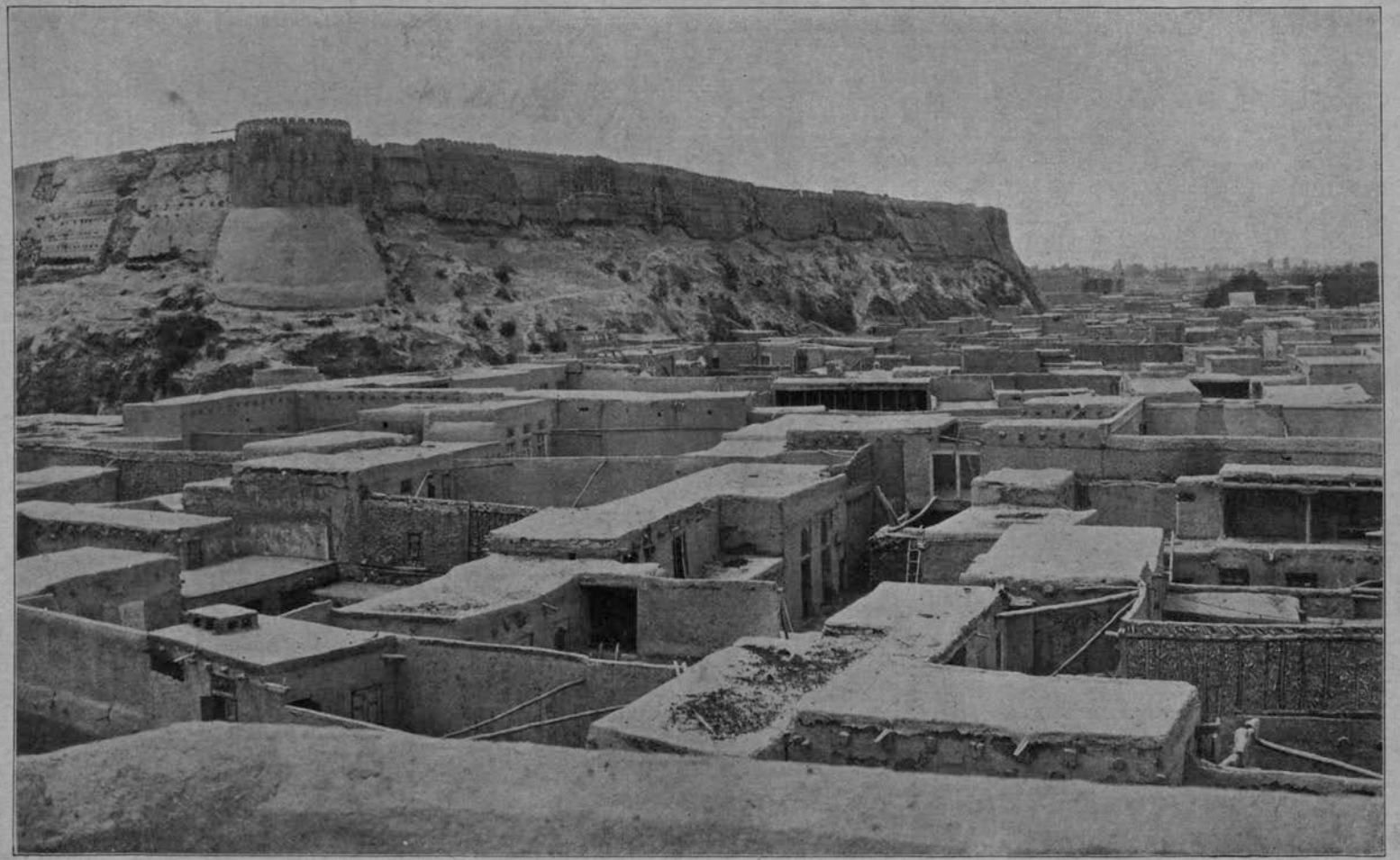
Bokhara occupies a principal place among the Islamitic towns of culture, and commerce and agriculture flourish, until this dynasty is overthrown by the Turks, and then up to about 1218 Uiguric kings and Kharesm (Khiva) govern Bokhara. In 1216 the country was conquered by Mohamed Shah of Kharesm, and the glorious days of the 12th century were now followed by wild anarchy, massacres and devastation under Jenghis Khan and his successors. Bokhara was conquered by them in 1219 and the Jenghisides raged here until 1363 when Timur again brought the realm into a flourishing state, reigning with a firm hand until 1405. Marco Polo visiting the town during the reign of Borak Khan (1264—1274) says that at this time the town was large and beautiful. Timur and his successors, the Timurides, reign with more or less success until about 1500 when Bokhara is overrun by the Usbegs under Ebulkhair Khan, the founder of the dynasty of the Sheibanides among whom the best known was Abdullah-Khan reigning about the middle of the 16th century and the patron of science, art and commerce; he also conquered Badakhshan and Khorassan. Before the end of the 16th century this dynasty had expired, and the Kirghiz made their way into the country. In 1598 a descendant of Timur comes to the throne, laying the foundation of the dynasty of the Ashtarkhanides. His name was Baki Mehemmed Khan renowned from his victory near Balkh over Shah Abbas of Persia. In 1605 his brother Veli Mehemmed Khan who had lived at Balkh appears in Bokhara and comes to the throne after a victory over his brother's two sons in the battle of Termez. Owing to his weakness the Governors reigned arbitrarily exercising the most terrible tyranny; he was therefore deposed and replaced by Imankuli Khan, a very pious Mussulman, who reigned happily until 1640, and then again there were troubles as to the succession and revolution, until Nasr Mehemmed Khan succeeded to the throne in 1642. In 1620 the first Russian mission arrived at Noble Bokhara, and during the turbulent times in the 17th century Kharesm (Khiva) breaks off from Bokhara to which it had been subject.

Under the reign of Subhankuli Khan from 1680—1702 the importance of Bokhara as a realm declines. Incessant troubles about succession, weak sovereigns often governed by their viziers, made it easy for Nadir Shah of Persia to make his way into the country under the weak Ebulfeïz Khan who was murdered and replaced by the shrewd, cunning and wise Emir Mâsum founding the house of Mangit. Emir Mâsum waged several wars with the Afghans whom

he deprived of the provinces south of the Amu Darya formerly belonging to Bokhara. In 1803 Emir Mâsum's son Seïd Haidar Töre (Prince) succeeds to the throne under the name of Said. He is known as a religious visionary and fanatic, and he was an incapable ruler. He was succeeded by his son Nasrullah Bahadur Khan, in his capacity of regent of Bokhara known by the name of Emir Nasrullah, in 1826. His reign is characterized by murder, poison and treachery, and he is generally regarded as one of the most profligate tyrants of Bokhara. During his miserable government Bokhara, sunk into a bottomless pool of vice, became an apple of discord between England and Russia both of whom despatch missionaries who are treated scornfully by Nasrullah.

His son Mussaffar-eddin takes possession of the wasted country in 1860, and now the Russians make their way everywhere in Central Asia. After an obstinate resistance under Khudayar Khan Kokand falls into the hands of the Russians in 1866. In 1868 Samarkand, belonging to Bokhara, is conquered and incorporated with Russia. In 1868 and 1873 when Bokhara has sufficiently proved its impotency, a treaty is made between this country and Russia according to which the Amu Darya and some points on its bank, among which Kerki, are transferred to Russia, the realm of Bokhara being, indeed, declared to be independent which it has continued to be formally under Mussaffar's fourth son, Saïd Abdul Akhad. But bounded by Russian countries on all sides and traversed by the Russian railway this independence only holds good for the internal affairs. The Emir is, of course, dependent on the Russian statesmen, but Russia has not proceeded to the complete annexion of Bokhara, partly owing to the great expenses involved, partly owing to the inner troubles which would, no doubt, be the consequence. The relations between Russia and Bokhara seem to be excellent now. The native administration is decidedly the cheaper and more secure. Apart from the pleasure afforded by a visit to the original Islamitic realm which continues to live in its old customs, the foreigner never meets a drunken person in Bokhara.

With its triangular town mass Bokhara covers an area of about 6 kilometres square, its diameter being about $2^1/_2$ kilometres. It is everywhere surrounded by about 7 metres high walls (tshim) whose breadth is 3 metres at the foot; they are built of loess, basis and frame consisting of bricks and timber. The crown of the wall that is crenelated is continually interrupted by half-round bastions (burdsh) rising not very much above the wall and formerly mounted with



View across the roofs of Bokhara towards the fortress walls of the Ark.

guns. The number of these burdshes is given at 131. Seen from without, the town-wall looks very imposing, the yellow loess resembles sandstone at a distance, and in older time it must, indeed, have been a considerable stronghold and with a brave garrison able to keep the enemy at a distance. Even now the wall is practically uninjured, there being only a few cracks in some places towards the north. One may follow the walk on the rampart all round the town and obtain from here an excellent view across the confusion of streets, lanes, mosques and palaces within the wall and the many villages outside the latter. One day I attempted such a walk, but after some time I was stopped by a Bokharan sentinel who forbade my proceeding further and asked me to go down into the streets again. He was looking after some old guns which in the process of time had dug their way into the loess of the wall. I asked the sentinel why he stood here, and then he pointed to the guns which nobody was allowed to approach; he informed me that neither was anybody allowed to walk on the rampart, which was still kept in repair like old fortresses out of use in Europe.

I had, however, already walked long enough to gain a good survey of the remarkable city, for this was not my only visit on the rampart; I had namely discovered where the sentinels were and, of course, avoided them; my behaviour astonished the civil Bokharans, but all of them knew that I was the guest of the Emir and took comfort in this, but nevertheless they watched my movements closely, whenever I was on the rampart, probably to find out how such a foolhardiness would end.

Seen from above the town looks odd with its flat roofs built together and of the same colour as the loess; the walls, streets and tombs resemble a loess plateau where the rain has furrowed narrow drains, which are the streets and lanes, and the holes where are the ponds (havs), whereas the undulating surface of the burial grounds formed by the pointed sarkhanáhs are not unlike the flying sands with their dunes, or a sea which has suddenly turned quiet after running high. The flat roofs seem to be continuous, so that one might be able to walk all over the town from roof to roof, streets and lanes are so narrow. No pointed towers and but few minarets (minar) rise above the flat mass. Only one single minaret, "The Tower of the Dead", resembling a mighty waste-steam pipe rises above the other minarets which are rather low. But the monotony is pleasantly relieved by the many cupolae, either covered with glazed, green or blue, tiles or only smeared

with loess or plaster, and by the numerous thimble formed towers of mosques and medresses, especially when the sun shines upon the polished glazing. Raised above the whole town like a higher loess terrace is the castle of the Emir, which is called the Ark; it is built on a hill in the middle of the town and encircled by a higher crenelated wall with half-round bastions which prevent every profane visit and look into the nearest surroundings of the ruler. Here and there high mulberry and apricot trees, a walnut, a willow or an elm peep forth above the roofs, in some places there is even a circle of them, and then they encompass a pond or border the irrigation canals.

A closer view reveals the open market-places, which seem to be depressions in the loess, because their surface is of quite the same colour as the roofs, except when populated, for then they teem with white turbans which, seen from above, look like water-lilies moving before the wind on the surface of a lake.

On the extensive burial grounds within the walls a gumbas with round cupola or the mausoleum of a larger saint's tomb here and there rises above the tombs of the common mortals, black and white yak-ox tails (tokh) wave before the wind together with the saints' colours; elsewhere the monotony of the literally speaking dead mass is only relieved by a single tree hung with rags, a thorny bush or a tamarisk.

One quarter of the town seems to be one compact loess mass, namely the bazars with their covered streets.

In the greatest heat in the middle of a summer's day there is often no living being to detect when looking down from above, everybody hides away from the heat; the town resembles an abandoned loess desert above which minarets and cupolae rise like monuments of a generation gone by; but from early in the morning until noon and then again later in the afternoon the white turbans move about like the white heads of the cotton in the field in after-summer. Then there is both enough to see and hear, the air is filled with a confusion of sounds due to the dogs' howling, the donkeys' braying, the cooing of the turtle-dove, the cry of the mueddin from the minarets of the mosques and the cackling of the extraordinary quantities of storks whose thousands of nests cover cupolae, towers and roofs which they adorn with their presence, but not with their dung and refuse which is only removed by rain, snow or insects.

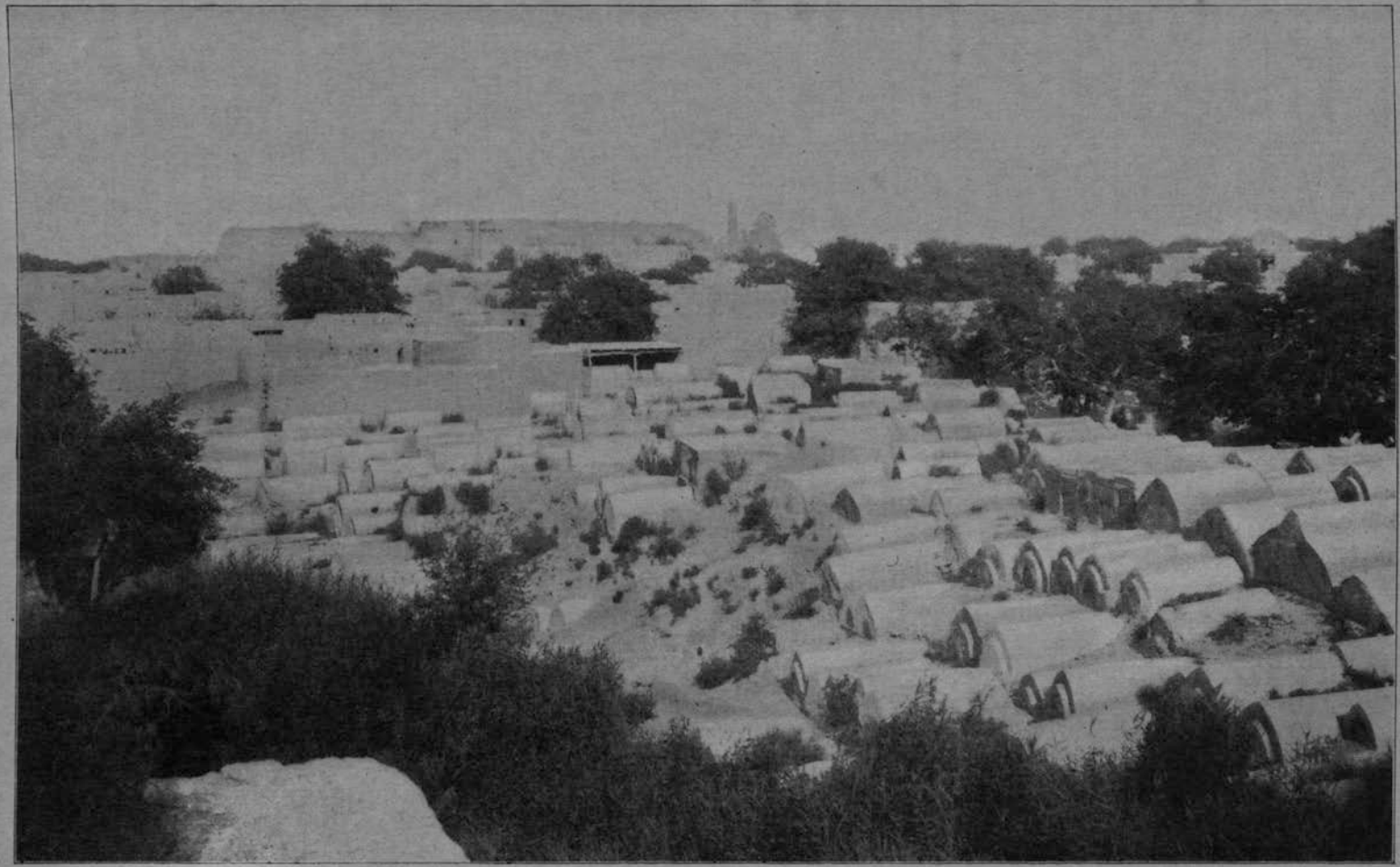
Outside the town-walls the region which is flat in all directions,

is enlivened by numerous villages shaded by all kinds of fruit-trees and vines; between the towns there are here and there fenny, marshy tracts covered with rushes and reeds, but the immediate neighbourhood is fertile.

Inside the town-walls it soon begins to grow upon one that Bokhara is a capital; the long winding and meandering streets which seem to have neither beginning nor end immediately suggest that the distances are greater here than elsewhere in the towns of Central Asia; and the swarm of people by which the town life is characterized is very imposing in the various centres.

The town can only be entered through the gates whose number is 11; they derive their names from the main streets or, speaking more correctly, main roads leading through the town, namely Darvas-i-Mazar, Darvas-i-Kaule or Karshi, -i-Sale-Khaneh, -i-Namas-i-gah, -i-Sheik-Djelal, -i-Karakul, -i-Ughlan, -i-Shinghiran, -i-Talipakh, -i-Iman and Darvas-i-Samarkand. All these gates where there is a sort of guard are shut at night and the keys delivered at the palace of the Emir, where they are again fetched the next morning; only at the gate where the road from New Bokhara leads into the town are the keys always with the guard at the gate out of regard to the Russian political agency, which has free passage day and night.

Canals. The town is watered by Shahr-i-Rud (The Town-Canal), entering by the gate of Darvas-i-Mazar; it is the largest canal of the country and after traversing the town it ends at the western wall at the gate of Talipakh; in the town it divides into many smaller canals which convey water to all parts of the city. The main canal is open and in places it is an unpleasant broad ravine bordered by fruit-trees, elms and poplars, but the smaller canals are covered by beams, boards, rice and loess, so that generally one does not notice their presence, if a horse does not step through the rotten cover, or they open the gratings which lead down to the water and are placed there that the inhabitants may be able to fill their leathern bags with the muddy, yellow water. The narrow streets often run along the edge of the open canal, and driving in a carriage is rather uncomfortable here, as the least wrong movement or a slip of the loess can upset the vehicle into the canal. The bank of the canal varies from 10 to 15 metres in the town, from 20 to 25 metres outside the walls. The canal is filled 2 and 3 times a month according to the want of water for the ponds in the town or the fields. The banks are generally sandy,



Burial ground inside the walls of Bokhara.

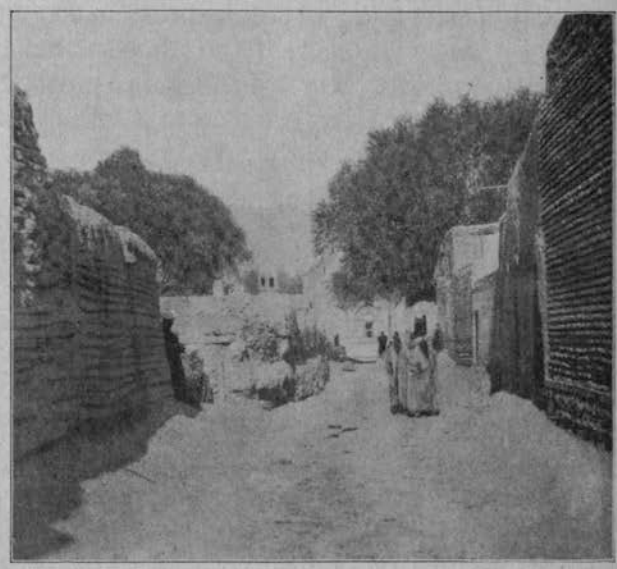
and the depth is 2 and 3 metres. Where it leaves the Serafshan a mound or dike is built which is partly carried off whenever the water is to be led into the town, and then it is again shut for a new accumulation of water. Loess and sand steadily drift into the canal, and as the whole construction is rather primitive, it has to be cleansed out every year.

Streets. All the streets are narrow to an incredible degree; in the main streets two arbas can just barely pass by each other, in some places one of them must make way for the other by turning off into a side-street; in the smaller streets the sides of the carriage graze the walls during the passage, and most of them can only be traversed by riders and pedestrians, being often but 1 and $1^1/_2$ metres broad. Only in very few places in the middle of the town a slight attempt of paving has been made, more particularly a curiosity, the streets being elsewhere unpaved; in the dry season suffocating clouds of loess dust always hover between the houses, and in the wet season the passage is very difficult owing to the sticky loess which settles on wheels, horses and people's legs, to say nothing of one's slipping no end of times. The enormous traffic in the main streets lowers the level of the street more and more, and accordingly the buildings come to look higher than they really are; for most of them their appearance is not impaired, however, as the wall and the cut down slope in the loess pass gradually into each other, both as regards colour and generally also as regards regularity. During the wet season this cutting down of the streets renders the passage very dangerous to riders and pedestrians, as it is nearly impossible to step aside for carriages and caravan animals, because the bottom of the street by degrees consists only of two tracks into which one easily slips down when attempting to get up on the broad slopes along the rows of houses.

To find one's way through the town requires a very long stay. As starting points the bazar, the ponds, the burial grounds and a few mosques and medresses situated on open spaces must be kept in mind. Generally one seems quite lost in the long meandering streets where the outer walls of the houses pass on continually like an infinite yellowish grey wall whose monotony is only broken by small doors or gates which are always properly barred. When seen from without even palaces, serais and several mosques only seem to be yellowish grey walls inside which life goes on in surroundings differing very much from what the outer shell suggests. Very few

main streets have names which consequently are not of much use for finding one's way; the Bokhara man finds his way by the aid of the points mentioned above or by knowing the name of some man or other or some institution in the street. The town is said to have about 360 larger and smaller streets, and as many mosques and medresses are said to be found in this sworn city of Islam; the latter number is, however, no doubt only about 100.

Life in the town exclusively pulsates near the bazar or the bazars with their serais, round the ponds and in the larger and smaller market-places (maidan). Long caravans of camels, horses or donkeys, or endless processions of loaded arbas traverse amidst cries and hard blows on all sides the main streets which lead into these centres of commerce and industry.



Part of a street on the outskirt of Bokhara. In the foreground two veiled women.

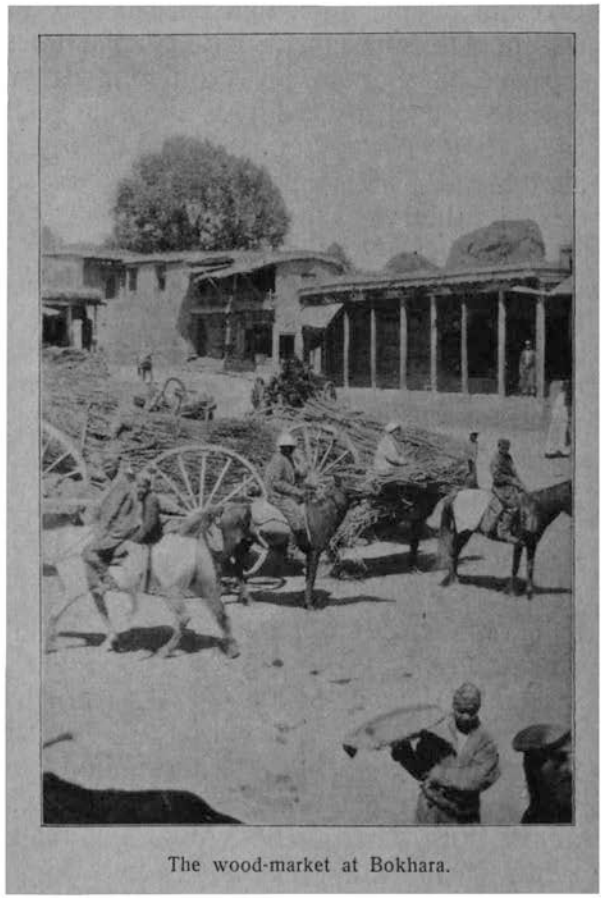
The smaller streets and lanes where Bokhara people have their private houses are silent and still, no end of clay-walls above which rises a single bala-khanéh like a first-floor; we pass a donkey tied at a door or a gate, ready to bring its proprietor or proprietress to the bazar, a single rider, a few half-naked children playing in the dust, a woman wrapped up in the long farandjé and with a horse-hair's veil (chasband) before her face; apart from this all seems empty. At the sight of the European in these remote streets where it is difficult for two persons to pass by each other the woman as soon as possible turns into a side-street where she hides, disappears the same way she has come, or if she cannot get away, leans towards the wall with averted face. It happens that a house-owner opens his gate and peeps out to look with astonishment at the impudent foreigner who ventures outside the bazar; his face flashes

with fury against the infidel dog, he calls his servants who pour out a flow of abuse, often succeeded by lumps of loess, melon peels etc. To walk about here by one's self is decidedly dangerous. In the bazar the foreigner is tolerated, and is regarded either as a merchant or an ambassador; but not in the private quarters where Bokhara people think that he can only have come out of an interest for the female element. Being the guest of the Emir and having my revolvers about me I often made such excursions alone, generally to collect my thoughts after the kaleidoscopic impressions which every day crowded upon me in the centre of the residence and also to go back in imagination to those remote times, whose trace has vanished in Europe.

The bustle of life is greatest in the bazars where all shades of the population of Central and Mid Asia afford an exceedingly picturesque sight in a literal sense of the word. Tadjiks and Usbegs with their many coloured silk and cotton khalats and white-, blue- or red-striped turbans are in the majority; then there are Kirghiz in fur-dresses with black fur-caps or felt-caps set with coloured ribbons or braids or in camel brown khalats, Afghans in snow-white woollen caftans, Jews in khalats of one colour with a string round their waists and a small black fur-cap, tall Turkomans with the gigantic fur-cap (chugerma), Hindoos with black silk calottes, a motley swarm of riders, pedestrians, arbas, caravans of horses, dromedaries, camels and donkeys among which at long intervals a European is seen making his way, or a small procession of calandars, a single dervish, an Arabian lay preacher. In all this confusion one must have one's eyes about one not to be run over or ridden down, for the camel's and horse's hoof and the arba's wheels grind close to the small platform where the merchant sits with crossed legs among his wares. The crowd is greatest in the so-called "Chahrsehs", small, round places, covered with round cupolae, from which the streets of the bazar issue, and where it is very dangerous to stay. Here one had better sit down in the shop on the platform not to expose life and limbs to danger. "Poshst! Poshst!" "Take care. Take care!" is heard all round from the drivers in streets and bazars.

Entering by the city gate of Darvas-i-Samarkand on one's way from New Bokhara one has nearly half an hour's walk, before reaching the quarter of the bazars which begin at the well-known place of Maidan-i-Labihavs-i-Divambegi with one of the largest ponds of Bokhara of the same name. From here the covered bazar

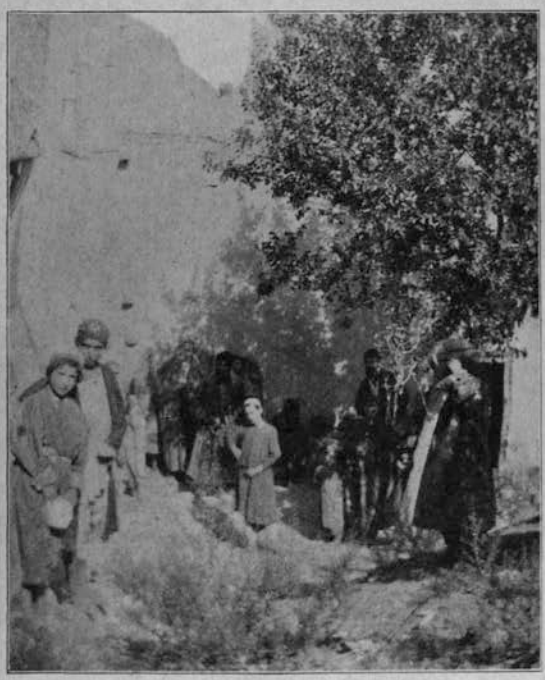
streets interrupted by open streets extend over a considerable area. In some towns in Bokhara the bazar is one single mass of continuous tunnels; here there are about 50 different bazars within the city-walls and about 20 outside the latter; but most of them are, indeed, pretty close together. Each bazar (tim) has its own Aksakal who maintains order among its merchants and artisans. A few of these bazars have their special articles, thus in Tim-i-Abdullah-Khan they deal in velvet, muslin, brocade and satin, in another, Tim-i-Tanninga in silk, in a third, Tim-i-Gilam in carpets.



The wood-market at Bokhara.

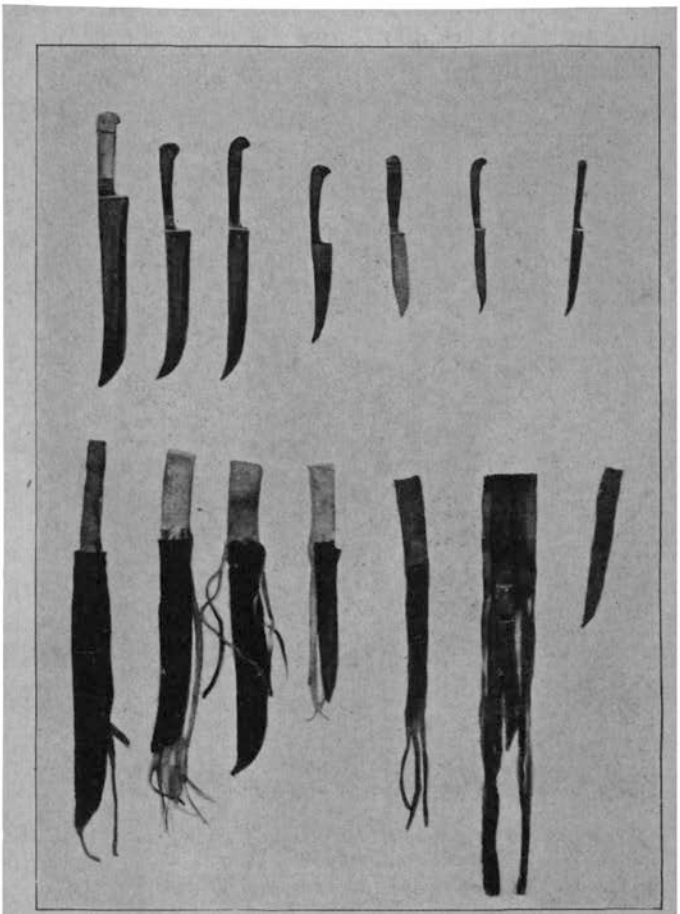
Tim-i-Abdullah-Khan derives its name from this Emir who built the bazar which, like all that he erected is solid and beautiful, differing very much from those added later. Among other bazars may be named Daraï built mostly of wood, and where they deal in Indian manufactured goods, women's finery and women's shoes, the large chahrseh of Khodsha Muhammed-i-Piran where they deal in headgears (kalapush or chelpak) and the bazar of Timtshe Chai Furutshi. In former days there was also the slave-bazar or slave-serai from which Bokhara was furnished with Persian slaves (kul), especially by the Turkomans, but the bazar has now been suppressed by the Russians. We have here named some of the more important bazars, but the various industries are distributed in certain streets in the larger groups of the bazars; when covered these streets are called rhasta, and the bazar itself tim. In a street close by the above named large chahrseh they deal exclusively in woven silk ribbons of various breadth, used for belts (kamarband); close by the

money changers have their shops, Rhasta Sarafshan (from Saraf or Seraf = exchanger), where they sit on their aivân with large heaps of Tenga and Pul before them; here are also booksellers with their piles of books, nearly all of which are in green bindings with red backs. In the streets issuing from here one merchant only deals in pumpkins (kaliân), used for holding the water of the water-pipe (chillem), or for keeping snuff and chewing tobacco (nos) and called nos-kaduh. Beside, others deal in carved and painted bamboos (chillem-nai) used for tubes for the water-pipe, and again in another region is nos lying like a gravel-heap before the merchant amidst large piles of the greenish yellow snuff and quid. In a long street ending near Labihavs-i-Divambegi they deal in nothing but Russian manufactured goods of the bright colours known from the annual markets in Central Russia. To this bazar many Jews always resort; they are the only people who side immediately with the European whereas Bokhara people look at the latter with an expression which shows distinctly their aversion to the foreigner (faranghi). Near the belt bazar is the knife bazar which is very rich and interesting. Here they mostly deal in the dagger-formed knives employed by every inhabitant of Central Asia as tool and suspended from his belt, but we also find the long knives (kard) exclusively used as weapons, and curved swords. The scabbards as well as handles often glitter with hammered out plates of silver decorated with any amount of turquoises and other precious stones, or the scabbards are made either of brown leather, Morocco-leather or American lac, called American by the natives, and are sewed all over with coloured silk. In the knife bazar there



From the Jews' quarter on the outskirt of Bokhara, near the town-wall.

is also a section where the brown leathern purses, furnished with silk embroideries, are disposed of; the purses are intended to be suspended from the belt to keep money, tobacco, the indispensable razor with which the grown-up natives shave their heads, or other implements. Northward leads the street of the sellers of antiquities, where one finds European thimbles, pistols, Chinese vases, Kashmir cups, Khivinian weights and a chaos of other wares from all Asia, such as armours, swords, spears, shields etc.

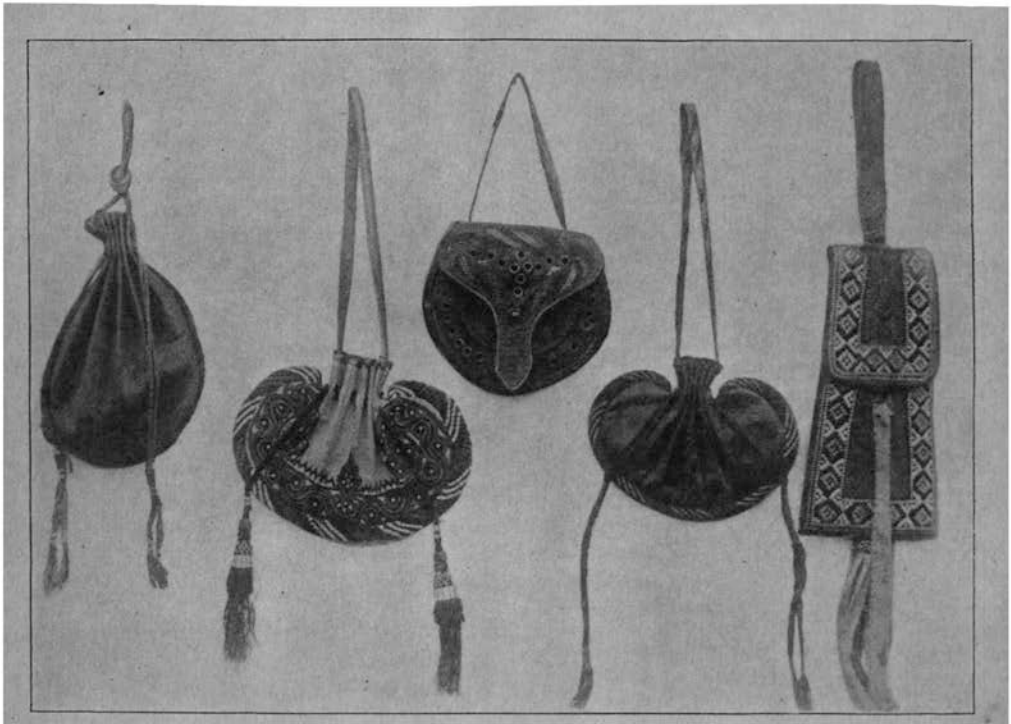


Various forms of Bokharan knives to be carried in the belt. All are intended for tools. Nat. Mus. at Copenhagen. Olufsen's Collection.

In a close, long and gloomy bazar are the apothecaries with their odorous articles in jars, glasses and paper bags; there are many European products, such as morphia which can be bought here in as large doses as one likes and European quinine pills which are very necessary against the fever. Near the apothecaries are the grocers with all possible sorts of grocery among which large loaves of white sugar-candy (kant) is the principal article. Here is also a section for matches, both European and Bokharan, the latter furnished with sulphur, but without heads.

In a very long covered bazar street towards the west ready-made men's dresses are disposed of from the simple greyish brown over-dress of camel's wool (chapan) and the thin many coloured

cotton khalat or don to the caftan embroidered with gold which is worn by those of high rank, and here we also see a splendid display of long boots embroidered with gold and large saddle-cloths for the horses of the well-to-do. The Bokharans are masters of making gold- and silver-brocade and masters of fixing the price of it. Close by we enter the boot bazar where the soft long boots (yetik), more like a kind of stockings and decorated with all sorts



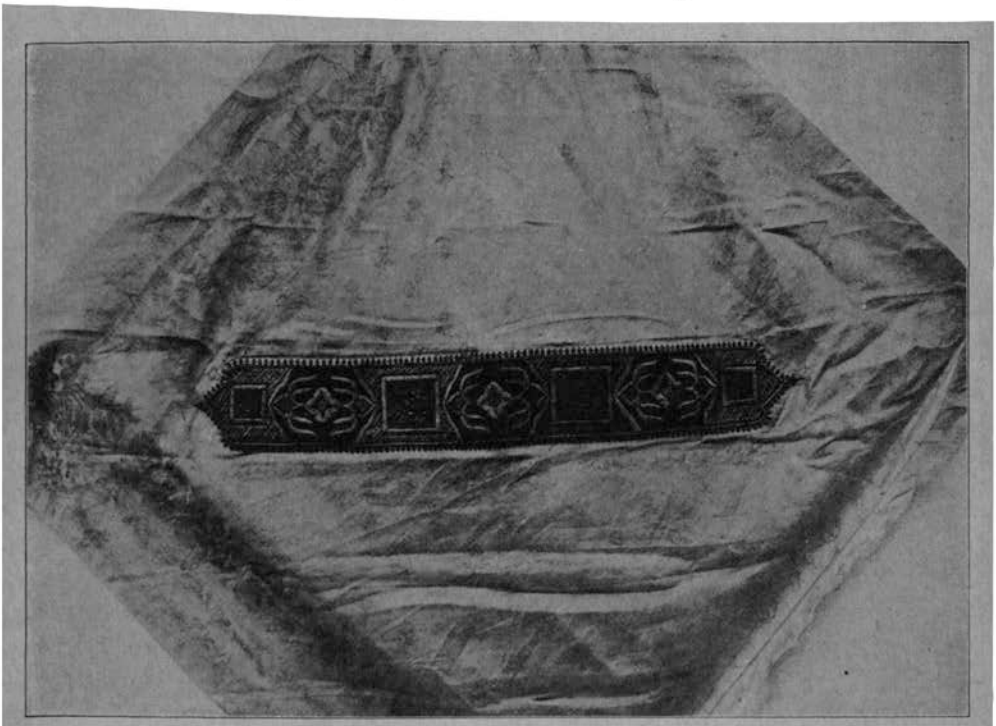
Leathern wallets (No. 2 from the left of linen) embroidered with silk. They are carried in the belt, used for money or tobacco. The one farthest to the right is used for keeping the razor. Olufsen's private Collection.

of colours and embroidery, are sold together with wooden galoches (kaush), and long sharp nosed, yellow tanned long boats with heels as pointed as awls.

In a narrow street which seems almost as if it were intended for breaking one's legs, as it goes up and down continually between the small open shops, which lean dismally towards the street, they deal in everything belonging to the equipment of camels and donkeys, saddles, pack-saddles, splendid ropes of camel's wool, always of several colours, head-gears, bells for camels and donkeys,

fetters for the animals, whips and pegs with which the donkey is tickled up.

From the latter bazar one passes through the stinking kitchen bazar, where various ready-made dishes are disposed of from open kitchen-ranges of clay, into the above named bazar for women's finery where they deal both in ordinary women's dresses, recorded above, and in baby linen, but where the caps embroidered with



Woman's head-kerchief with gold-brocade. Olufsen's private Collection.

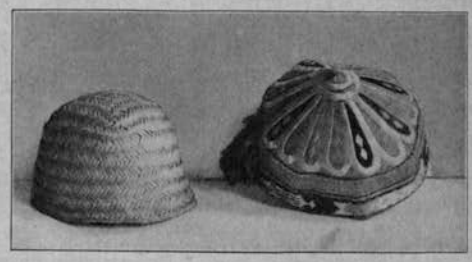
gold for women and children and the beautiful head-kerchiefs of silk furnished with a broad brow-band of gold-brocade strike one most. And farther on we traverse the muslin bazar where the long, narrow rolls of fine, white, red- or blue-striped stuff, are sold and the long turban cloths, wrought with gold and often about 50 feet long; most of this has been introduced from India, in summer caravans arrive 2 and 3 times a month. After a long walk through the silk bazar, where long narrow pieces of silk in gay colours hang down from the shops like Chinese signs, we enter a large solid chahrseh under whose cupola and side-rhastas the sellers of

velvet exhibit their articles. Here is a sight to tempt the foreigner, namely the most magnificent articles of silk velvet of many, but beautifully arranged colours. As in the case of silk the pieces are always narrow strips of a breadth not exceeding 1 foot; European use of the article is also precluded, because it is difficult to get enough of the same pattern; but the exhibition is splendid to look at. All the merchants themselves seem very well-to-do; they are very slow to do business with anybody and hardly know whether they want to answer; they take their tea and smoke their water-pipe, and in their magnificent costume they regard the European with an air expressing at the same time contempt of the infidel dog and pity for his appearance which in their eyes is less well-to-do. It is practically a favour to procure anything even at an absurd price, but their wares are, indeed, of the best industry of Bokhara, each thread in this velvet is silk.

Not far from the bazar dealt with above for men's dresses is one of the most interesting bazars in Bokhara where the smiths in metals have their quarter, both in a very long, covered street and in neighbouring side-streets. Their articles are exhibited in the shops facing the street, and behind the smiths have their forges where they solder and hammer and make a noise as if all smiths in the world had come together. Here we see the beautiful tea- and water-jugs (aftâbá and chaidjush) of brass and copper, characteristic of Mid and Central Asia, the greater number being, indeed, of the former metal; they often employ brass and copper in the same jug, the lid is, for instance, of brass and the jug of copper, or they decorate the brass jugs with silver-mounting; and the brass jugs are engraved in elegant patterns with primitive tools. Here are enormous copper dishes, copper pots, lids to be placed over the national dish, pillau, that it may be kept warm, numerous sizes, but rather uniform shapes, of vessels and small jars in which the natives preserve butter, herbs, spices, sugar etc., most of them of tinned copper in which patterns of flowers, leaves or geometrical figures, passages from the Koran etc. are engraved down through the tin, so that the red copper peeps out. Special art and decoration are devoted to the water-jug and the basin used for washing hands after meals. They are often set with turquoises, beautiful enamel or hammered out with plates of silver. Here are also the finest water-pipes (chillem) where the kaliân is adorned with brass mounting, and the tubes are made of brass, the whole often set with turquoises or corals (mardyan).

Everything seen here is not manufactured in Bokhara; many of the fine jugs and brass trays, metal drums, resembling old helmets, and copper mortars have been introduced from Kashmir, Kashgar, Khotan Yarkend and from Persia.

As in other Bokharan towns the bazars of blacksmiths and the turners lie close together. As is the case in the other trades part of the open shop is also the workshop. The smiths hammer on the anvil, so that the sparks fly across the street; we were, indeed, often obliged to ask them to stop a bit whilst we passed by, and the shavings from the turner's lathe take the same direction. Here the thin shoes without calks for horses and donkeys are made, the roomy stirrups, often laid with plates of silver or hammered in with silver threads, the large nails for the doors and gates of the well-to-do and of public buildings, often decorated with silver- and gold-threads, the Bokharan hatchet the edge of which is at right angles to the handle, except the hatchet of ceremony which is like the European and always ornamented with an engraved silver- or brass-handle, the Bokharan spade (shovel and pickaxe) the edge of which is turned as in the axe and the primitive coulter, a sort of iron ferrule with two edges.



Kalapush of straw and of gold-brocade; the latter is used by women and children, the former is rare. Nat. Mus. at Copenhagen. Olufsen's Collection.

Here as everywhere in Bokhara the small industry flourishes; everything is made by small artisans who sell directly from their shop as soon as the article is finished, factories are unknown. It appears from the foregoing that the work is greatly divided, in one bazar street one, for instance, buys a kaliân for one's chillem, in another the tube, in a third the tobacco (tamaku), prepared in large rough leaves, in a fourth the head of the pipe.

The turners and the smiths have, probably out of practical considerations, taken their stands near one another; one may, consequently, go direct to the turner at the side of the smithy to buy a handle for the hatchet or spade or the wood for the plough (sabân). The turner makes spinning-wheels for the cotton, distaffs, the infant's beds with bows over which is spread a cloth to shelter the child from sun and dust, wooden shovels for cleansing the

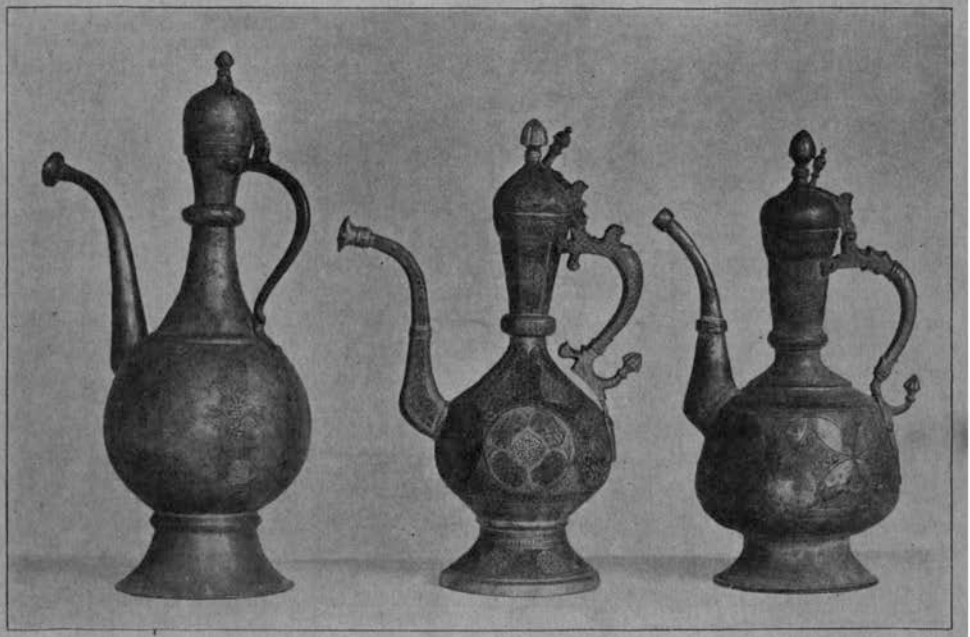
Bokharan jugs (chaidjush) of brass, partly with silver ornaments. Engraved in Persian style. Their form is more in Kashgar and Yarkend style. Nat. Mus. at Copenhagen. Olufsen's Collection.

canals, wooden forks, the characteristic bird-cages for quails or partridges and the long cubic wooden lanterns with oiled paper panes employed in Bokhara.

Both in the turner's and the smith's work-shop the turning-

Bokharan tea-jugs (chaidjush) of brass, engraved in Persian style with conventional leaves and flowers. As in all jugs pictured in this book, the handle represents a dragon. Nat. Mus. at Copenhagen. Olufsen's Collection.

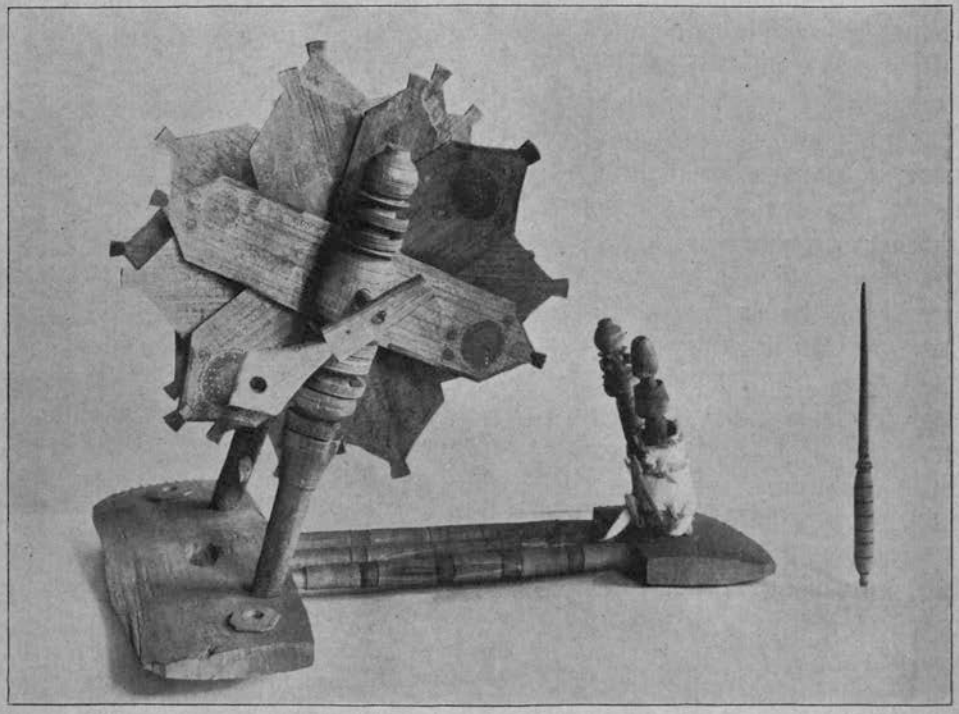
From the left to the right: 2 brass jugs (chaidjush) engraved more in Kashmir style. Copper jug with handle, spout and lid of brass (kungan) in Kokand work. Engraved brass jug (chaidjush), according to the natives in original Bokhara style. Engraved brass jug.
Nat. Mus. at Copenhagen. Olufsen's Collection.



Water-jugs from Bokhara (aftâbá). The style of the two first to the left resembles the Indian-Afghan style.. The last is in Khorassan-style. Nat. Mus. at Copenhagen. Olufsen's Collection.

lathe whirls round and round, generally drawn by a half or quite naked cripple who pulls the ends of a belt which is twisted round the axle of the driving-wheel, or should the turner be alone, he uses a bow which he draws to and fro, the string is twisted once round the axle.

The smith employs his file a great deal together with his turning-lathe, and both smith and turner decorate their wares with primitive painting in gay colours.

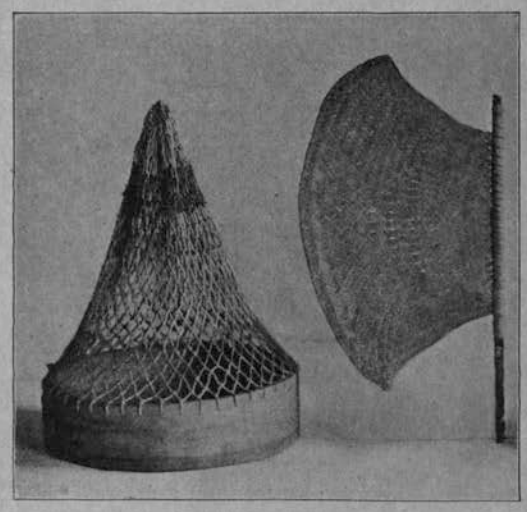


Bokharan spinning-wheel for spinning cotton wool. The stick for the spindle stands to the right. On the board to the left are two small winders for the yarn. Nat. Mus. at Copenhagen. Olufsen's Collection.

In the saddlers' street, always frequented by many and various national types, are bought the high wooden saddles decorated in gaudy red and green and with ivory and brass nails and with a long horn in front. They are very strong and, having grown accustomed to them, one finds them very comfortable to ride in; saddles are always furnished with many rings and eyes from which long strings hang down; from the latter one suspends the tea-

jug and other things indispensable to riders in these regions. To prevent the saddle from gliding there are always front and back straps. Here we find horse-trappings where the straps are covered all over with silver- or gold-plates, inlaid with turquoises, and short whips, the handles of which are set with thousands of turquoises. In the same bazar one buys one's chinegob, a curious implement which at first sight is taken for a cap and in which tea-vessels are kept when travelling on horseback. It is suspended across the horn of the saddle and the vessels are wrapped up in cotton cloth.

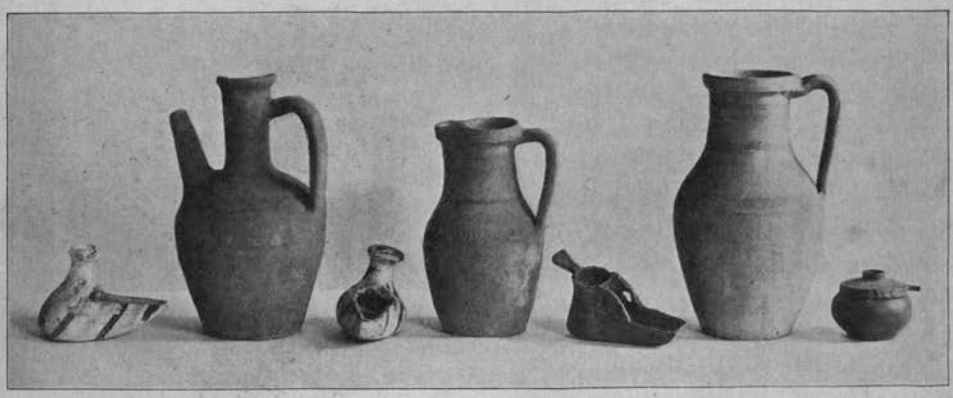
Close to the harness bazar is that of the saddle-bags (kurdjum), wallets of woven carpeting laid across the saddle, so that the seat rests on the middle piece between the bags which are pushed backward abreast of the stirrup straps. They give the Bokharan rider when seen from behind a ridiculous appearance, but are very practical and strong. These kurdjums, often beautifully woven in geometrical patterns in yellow, red, brown, blue and black contain provisions for the rider for several days.



Bird-cage of wood with motley net for the bedannah. Common straw-fan used in summer and indispensable for everybody. Nat. Mus. at Copenhagen. Olufsen's Collection.

A very interesting bazar is Rhasta Sergeran, that of the silver- and gold-smiths. Like all the other merchants the latter have open shops with a small room for their workshop i. e. for crucible, stiletto, small hammers, files, thongs, anvil etc. As soon as a thing has been finished, it is put out for sale on the low clay-platform, characteristic of the shops of these artisans. With their few and primitive tools they produce beautiful gold- and silver-trinkets, specially women's finery, rings and mountings for weapons. The metal is hammered out in thin plates pressed in patterns in Persian style with leaves and flowers. Most of the apparently massive female trinkets such as hair-pins, breast ornaments, hair-dresses and the enormous ear-rings are generally filled with shellac, the metal is quite thin, the gold especially is not thicker than thin tissue-paper,

whereas the mountings of arms, ferrules and mouth-pieces of knife and sword sheaths are very solid and often very well made. The articles are profusely adorned with turquoises, corals, garnets, opals, lapis lazuli, emeralds and rubies, but only the turquoises, corals, garnets and the lapis, are always real, as they are found in great quantities in the Bokharan mountains and the neighbouring Persia for which reason they are very cheap here; at least 90 per cent of other precious stones, exposed for sale, are imitation stones. There is a very great selection of finger rings owing to their being much in request by both sexes, especially the silver rings with the lapis-plate in which the name of the owner is engraved; the latter



Three large earthen jugs (unburnt) and four lamps (chirâk), the two to the left of glazed clay, the third of cast iron (cast in sand), the fourth to the right of copper. The wick lying in the oil or tallow of the receiver sticks out from the spout. These lamps are in use in all Bokharan houses. Nat. Mus. at Copenhagen. Olufsen's Collection.

which is used as seal and stamp is indispensable to the Bokhara man, who is generally unable to write and therefore always obliged to have his seal (murgh) at hand which he puts under contracts, letters etc., which thus become valid in law. Except the seal-rings and the flat silver- and gold-rings in which passages from the Koran are scratched, most of them are rather roughly made, and the stones, set in a very high setting, generally fall out very soon. A single artisan in this bazar now and then tries his hand at enamel, but this is, as a rule, bad compared with that produced in other parts.

In the western part of the town in a place where the canal is open is the bazar of the potters. The articles are produced on the spot, and accordingly the street is nearly always one slush of mud

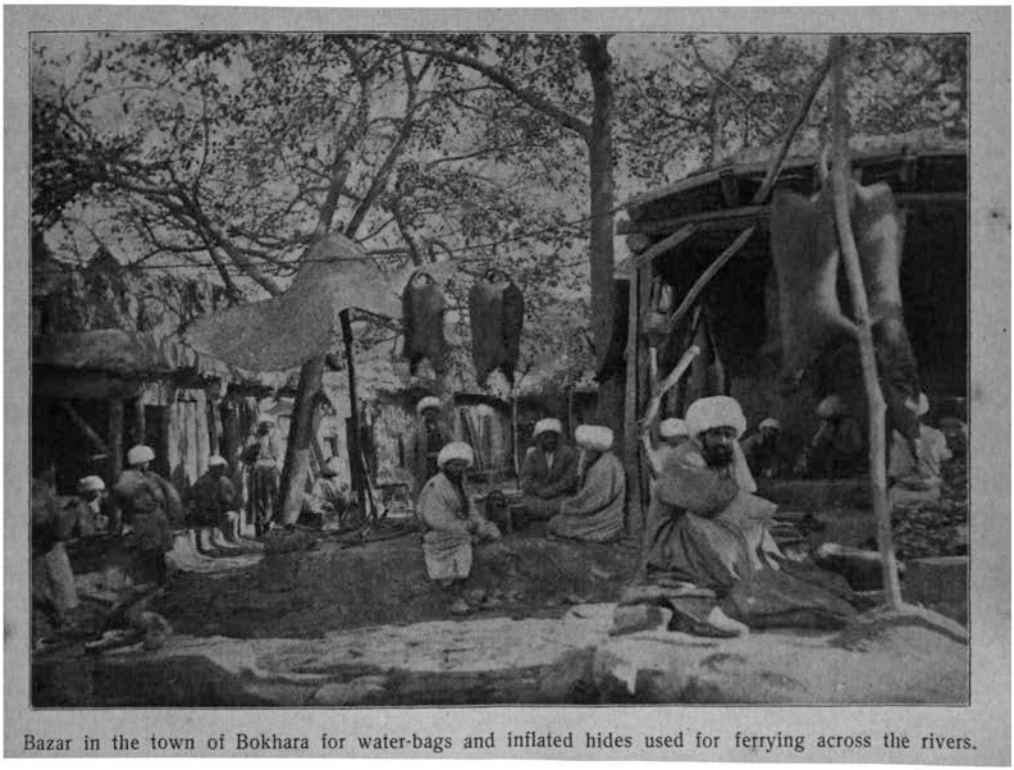
and water. Here are sold the gigantic jars used for clearing the canal and river water and so large that a man can hide in them, all possible sizes of water-jars and jugs, flat and deep earthen dishes down to the small earthen lamps (chirâk) generally used in the houses, in which burns a greasy wick, and the round earthen balls used by the children as toys. Jars and jugs have classical forms and are, as a rule, without spout and made of unglazed clay. But earthen dishes and chirâks are glazed so badly, however, that the glaze falls off very soon; the colours are mostly blue, white and green. That the art of glazing was formerly more developed than it is now, appears from the magnificent encrusted tiles found on mosques and medresses; but it never properly belonged to Bokhara, the kashis were either produced in Persia or made in Bokhara by introduced Persian masters.

Leathern bag, used by the water-carriers in Bokhara. The leathern purse to the right is used for raising water from the pond. The stick is the handle. From the leathern purse the water is poured into the bag which hangs on the back of the water-carrier. Nat. Mus. at Copenhagen. Olufsen's Collection.

Near the earthenware bazar are extensive butchers' bazars where the slaughtered cattle, especially sheep and lambs, are hung up to be sold, more rarely beef, which is not eaten much by Bokhara people, as the oxen are not killed until they are old; the meat therefore becomes kattyk (tough). There is, however, much horse-meat which is eaten by poor people in Bokhara, not by the well-to-do who maintain that one becomes warm (isyk) from eating it. Camel's, dromedary's, and goat's meat is also seen but only eaten by poor people. Of all bazars the butchers' bazar is most stinking and dirty, all refuse is thrown out on the street which is cleansed by no one but the numerous dogs resorting here and who fight to such a degree that it can be dangerous to walk here. It must be stated, however, that, in spite of the want of street cleansing — in the

bazars the streets are, indeed, sprinkled over with water to produce coolness and lay the dust, and then they are swept with tamarisk brooms — Bokhara is, according to Oriental notions a clean town, and dead horses, camels and donkeys are not seen lying across the streets, such as is the case in the actual residence of the Shah of Persia, Teheran.

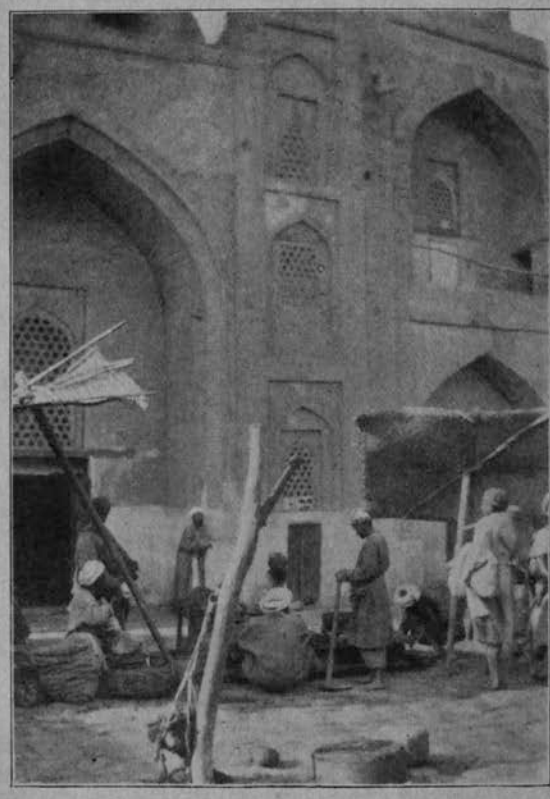
Far out in the northern part of the town the carpet-dealers have



Bazar in the town of Bokhara for water-bags and inflated hides used for ferrying across the rivers.

their bazar, Tim-i-Gilam, the principal part of which is made up of an open square place encircled by open shops with stores of thousands and thousands of carpets. Here we find the carpets with nap (gilam) both from Bokhara and the neighbouring countries, Persia, Turkestan, Afghanistan, Belutshistan and from the Kirghiz in Turkestan, carpets without nap (pallast) generally with a white ground and decorated with variously coloured stripes or geometrical figures and splendid red, blue, black or white felt carpets (kighis), sometimes with patterns in geometrical designs, all the latter made by the Kirghiz tribes. The carpets made in Bokhara and, as the others, on primitive looms in the open air are long and narrow

and in quality rank between the gilam of the Kirghiz and the Yomuts; they can neither as to solidity nor beauty be compared with those of the Turkomans or Persians, but they surpass considerably the Kashgar, Afghan, Belutshee and common Kirghiz carpets. The colours of the Bokharan gilam are mostly brown or red with black, yellow, green or white geometrical patterns. A special sort, used as prayer-carpets in the mosques are, as a rule, red with a mosque-pishtak in white.



Merchants outside a mosque in Bokhara. In the foreground the primitive, common balance is placed on a trunk rammed down into the ground.

When we add to what has been said above as to the bazars that in most of the larger and smaller markets (maidan) in front of mosques and medresses or round the ponds under mat tents of durra-straw an overwhelming selection of dried and fresh fruit are sold, on the ponds leathern bags, tursuk, for the carrying home of water from canals and ponds to the houses and inflated goats' and wolves' hides, sanaätsh, used at the ferries; that in a few small markets on the canals room is reserved for the peasants here selling poultry, eggs and milk—the last article is brought round the town by milk boys in small earthen pots suspended by strings across their shoulder or the back of the donkey—that some larger places are quite occupied by the melon-dealers, and that outside the walls are large fairs where nomads and peasants from the villages come together with live animals, camels, horses, donkeys, fat-tailed sheep, oxen and goats, we shall have given a survey of the principal contents of the bazars which are involuntarily arranged like an ethnographical museum.

Ponds. Characteristic centres of town life at Bokhara as well as in the other towns of the country are the ponds. It is the same thing here as everywhere in the dry countries of Mid and Central Asia that there is life where there is water. The ponds are the indispensable reservoirs of the town, for only at the times of damming up is the Serafshan able to yield water to the canals, and even then it is no rare thing for all the water to be consumed

Vegetables in the bazar in Rigistan in the town of Bokhara.

in the oasis of Samarkand so that Bokhara must for some time put up with what is left from a former period. About 20 and 30 larger and smaller ponds are distributed over the town, deepish pits dug down into the loess and often provided with stone-settings and stairs leading down to the water; they are fringed by high elms and mulberry-trees beneath whose shade there are idyllic resorts amidst the yellowish grey loess. But some of the charm of the idyl is lost when one sees the natives washing their arms and legs or clothes, in them, and throwing all sort of refuse from fruits, melons etc. into them, and that the blood from the shops of the cupper and bloodletter runs out into the stagnant

water in small brooks. But this does not restrain people from drinking out of them; most of the drinking water and water for cooking purposes is, on the contrary, fetched here in spite of the stench which rises from them in summer and reminds one of a dunghill pool. They are very rarely cleansed, and when this is done, as during my stay in the town in 1899, I should very much advise every foreigner to avoid staying in the residence. The water

The melon bazar in Rigistan at Bokhara.

teems with the eggs and larvae of the rishta and numerous infectious bacilli; it makes one wonder that the town is not oftener afflicted with epidemics which is comparatively seldom the case.

In spite of the filth associated with the ponds, they are idyls, nevertheless, for all is relative in this world; and when spring makes the elms and the mulberry-trees spread their green roof across them, or when the white mulberries hang like flakes of snow down through the refreshing and shady foliage, both Europeans and natives resort here to take kara- or kök chai (black or green tea) with fruit and sweetmeats, to have a talk with one another, do business on the

stone-stairs or enjoy themselves in various ways. Especially when the afternoon prayer (nâmas) has been prayed from the roofs of the mosques, they exhibit a lively and picturesque sight whose like is not easily found. It is like a fairy-tale from the Arabian nights or a spectacular drama which no theatre has yet been able to perform.

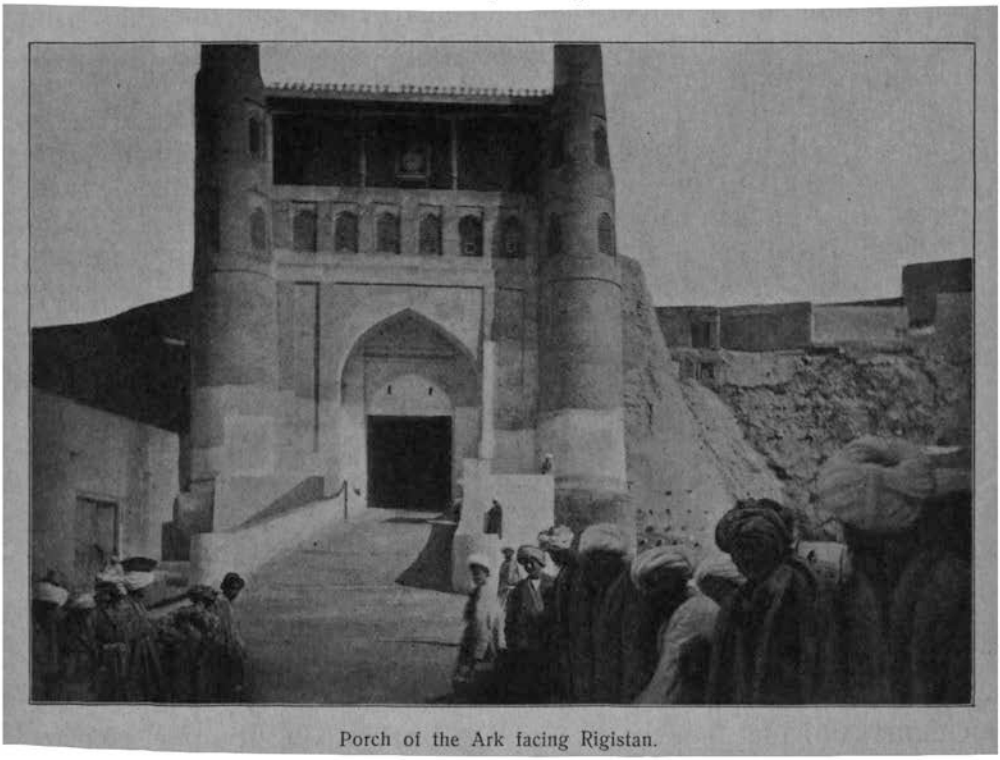
Most of the ponds (havs) were made in former times by the Emirs, their viziers (Kushbegis or Divambegis), by the estates of the clergy (vakuf) or by larger circles of merchants. But one, the pond near the mosque of Hazreti-Halfa-Kudait is covered by a cupola built up of burnt bricks, to prevent evaporation of the water and its becoming covered with dust. A great number of these reservoirs covered by cupolae are found in the region between Karshi and the Amu Darya which is dry now; most of them were erected by Abdullah-Khan; but few are still in repair. The pond of Hazreti-Halfa-Kudait is now considered holy, and the water is drunk as a remedy; it is, no doubt, anything but good, for after my companions had tasted it, they declared it to be worse than what they had hitherto come across.

On the larger or smaller bank of the pond shops and chaikhanéhs lie close together, and every pond has its place for a fair. The bank of the pond is therefore always called maidan (market) and not after the pond (havs).

Here we shall only describe two of the largest ponds or markets with ponds and their surroundings, namely Rigistan and Labihavs-i-Divambegi, which are indeed worth seeing, not because there are not places and centres in the Mahomedan-Oriental world where the buildings do not surpass those of Bokhara in splendour, but because everything, both animate and inanimate, is so untouched, genuinely Oriental that the like of it is hardly to be found elsewhere. Among other more important ponds may be named Bâlihavs, Lesak, Mir-Dostum, Labihavs-i-Gaukshan and Havs-i-Rakhit; the latter was made by Afghan merchants beside their serai.

Rigistan means market or exchange and such a one is found in all larger Bokharan cities. To Rigistan lead but few narrow passages, and it is partly an open market in front of the Emir's fortified castle, Urda or the Ark, partly a large square space whose centre is taken up by a pond, Bala-i-havs. The whole is enclosed by the high walls of the Ark and two medresses; and the pond is shaded by large elms and apricot-trees. The open shops and the mat tents are closely packed all round the pond and in the place in front of the Ark, and where there are no more stable shops, low tables are

placed on which the native merchants sit surrounded by their goods. The place immediately in front of the Ark is called Bazar-i-Isafar and is mostly occupied by fruit- and melon-dealers, but the space round Bala-i-havs is especially reserved for the trade of cotton, tobacco, dried fruit, corn, flour, rice and many Indian products. Thousands and thousands of natives press forward in crowds, and tables and mat tents are often upset by arbas and camel caravans.



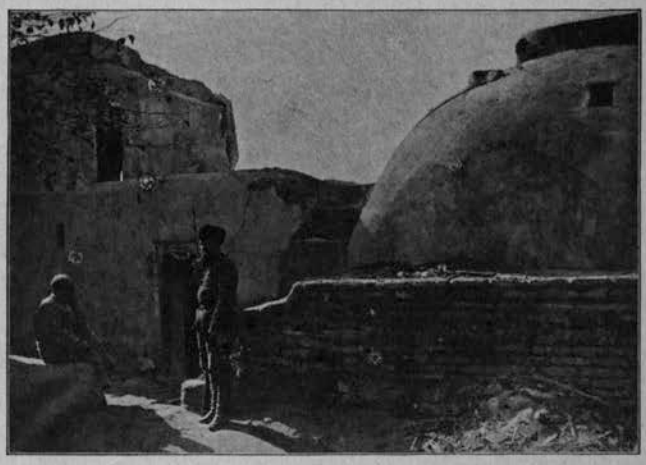
Porch of the Ark facing Rigistan.

Hadshis (Mĕcca pilgrims) who are in high esteem in Bokhara, beg among the shops together with cripples, lepers, singing calandars and dervishes, and from early morning until late in the afternoon the whole place resounds with a fearful noise of cries and screams. The many times I had an audience of the old Divambegi, Djân Mirza Divambegi, in the Ark it was hard work for our Russian hooded carriages to force their way through this crowd to the gate of the Ark, and, of course, it would never have been possible, if the escort of Bokharan officials in front of the carriages and behind them had not made room by the aid of their whips which were in full activity on everybody's back who came in our way.

The Ark is the Emir's old castle of residence which was built about 1000 A. D. by Alp Arslan; in 1742 Nadir Shah added the somewhat imposing principal porch facing Rigistan. It is situated on a hill, probably artificial, about 2 kilometres in circuit, encircled by about 10 and 12 metres high crenelated walls and bastions enclosing in a square the habitations of the Emir and his grandees, the harem, the state-prison (sindan) and the treasury. Inside the walls there are beautiful small gardens and cool reservoirs far down in the earth to which the water is led; here were also the infamous prison pits, filled with scorpions and specially malignant bed-bugs, into which prisoners were thrown, and where Stoddart and Conolly are supposed to have been tortured.

Up to the porch leads a broad, brick-built and cemented flight of stairs flanked by some bronze guns and howitzers, and here every one except the Kushbegi and Kasi-kalân, must dismount, for only these two magnates and the Emir himself are allowed to ride into the Ark. The porch is supported by two high conical towers, and over it between these two plastered giants there is a loggia, above which is the only public clock in Bokhara. The latter was made by an Italian mechanician, Giovanni Orlando, who had been sold as a slave to Emir Nasrullah. Nasrullah tried to convert him to Islam, but not succeeding in his attempt, he passed sentence of death upon him. In his distress Orlando offered to make a time-keeper for the Emir, and the result was the clock provided with Arabian ciphres and still there. Nasrullah was so delighted with this piece of work that he pardoned Orlando who was appointed court-mechanician of Bokhara; but later on he failed in making a telescope for astronomic use and was again sentenced to death; he was, however, allowed to choose between death and Islam, but refusing resolutely to embrace this faith he was beheaded in 1851. He thus suffered the same fate as many Europeans both before and afterwards, who voluntarily or involuntarily visited the centre of fanaticism, Noble Bokhara. Below the porch we are received by silk and velvet dressed courtiers whose belts and swords are set with gold, silver and precious stones; masters of ceremonies with staffs walk in front leading us through a long plastered tunnel, then out into a narrow lane flanked by common houses and to the left into another narrow lane where the Bokharan watch is drawn up with arms presented, and where a narrow gate opens into one of the four-winged yards with verandas on all sides, so common in Bokhara. Here a numerous crowd of finely dressed

persons of quality pronounce their "Selam Aléikum" with deep bows, before we are received by the Divambegi in the chief wing facing the entrance gate and are taken to the usual meal and the same kind of audience, "Selam", which I have gone through so often and shall describe in the following chapter. The whole palace conveys an impression of great simplicity, some pointed plaster niches, a little painted stucco, a few carved veranda columns, carved folding doors and the common plastered lattice windows are the principal decoration; it must, however, be remembered that no European has seen more than we saw on our way which is the same along which all others have been led. The garden and the treasury are unknown to every European, but there is no reason to presume that special works of art are hidden here, but very probably articles of value, such as perfect metal and precious stones. On asking leave to see other parts of the Ark, the Divambegi always refused my request. One author says that inside the Ark is a beautiful minaret, but during my many and long stays at Bokhara which I traversed in all directions I never saw this minaret; but there is a small mosque for the use of the Emir and his relations. During my journeys the Emir lived neither at Bokhara nor in the Ark. The Russians purposely kept him away from the town to disuse the population of the thought of independence; he lived and has lived for many years in the provincial towns where numerous ark-like palaces were at his disposal. The Divambegi resided in the Ark, and the last time I was at Bokhara he was nominated to the highest rank now prevailing in Bokhara, Kushbegi (master of the Begs), after the former still higher rank of Ataluk had been abolished. He was condemned to remain within the walls of the



The state-prison (Sindan) inside the walls of the Ark in the town of Bokhara. In the cupola to the right are kept the less dangerous criminals; the others are fettered in the partly subterranean dark rooms to the left.

Ark for the rest of his life; for according to old custom the Emir's second in command is not allowed to leave the castle, as long as he is away, for this would be a sign of the Emir abandoning his throne. And the Emir will certainly never more return to the Ark. Djân Mirza was, indeed, prepared for this, for he always declared that he wished to obey the order of his master and die with the safe conscience of a good servant at the post which had been confided to him.

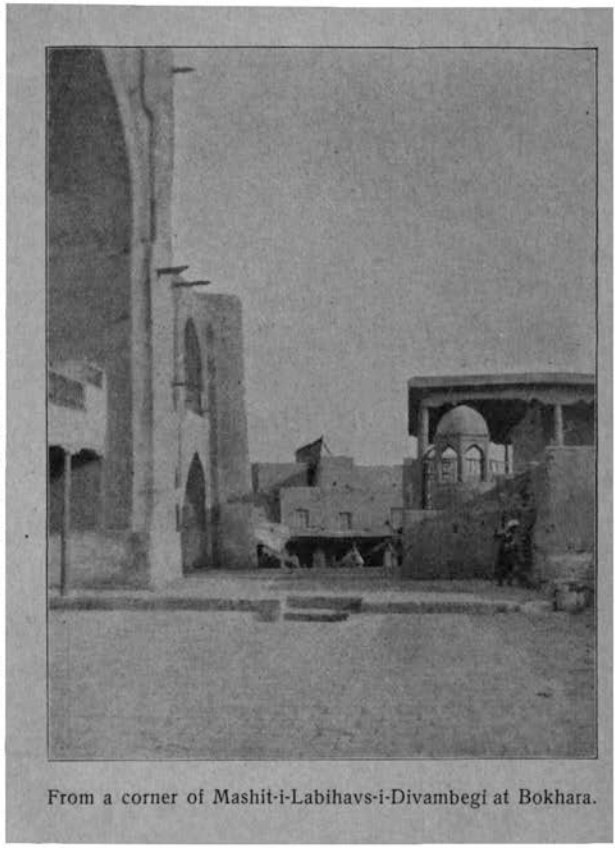
Part of the pond of Labihavs-i-Divambegi.

The medresse of Abdul Asis Khan fronts Rigistan. It is said to have been built in the 17th century. Its front is very fine with a high porch decorated with majolica, and on both sides of the porch there are pointed niches or sham bows, at the top set with blue, encrusted tiles with white leaves and flowers in relief in Persian style. In the medresse is a splendid pishtak, quite covered with majolica in gay colours and a mixture of Saracen and Persian Sassanide style. The medresse, it is said, can hold 2000 persons.

Meshit-i-Bala-i-Havs also faces the pond and the market; like the other larger public buildings it is erected of burnt tiles (kisht).

The mosque is fronted by a veranda resting on beautiful carved and painted wooden columns; the roof, too, is finely carved and painted.

Among the centres where town life culminates and presents itself to the European in its original Oriental style of the times of Timur and Jenghis Khan Labihavs-i-Divambegi must decidedly be said to be inferior to Rigistan.



From a corner of Mashit-i-Labihavs-i-Divambegi at Bokhara.

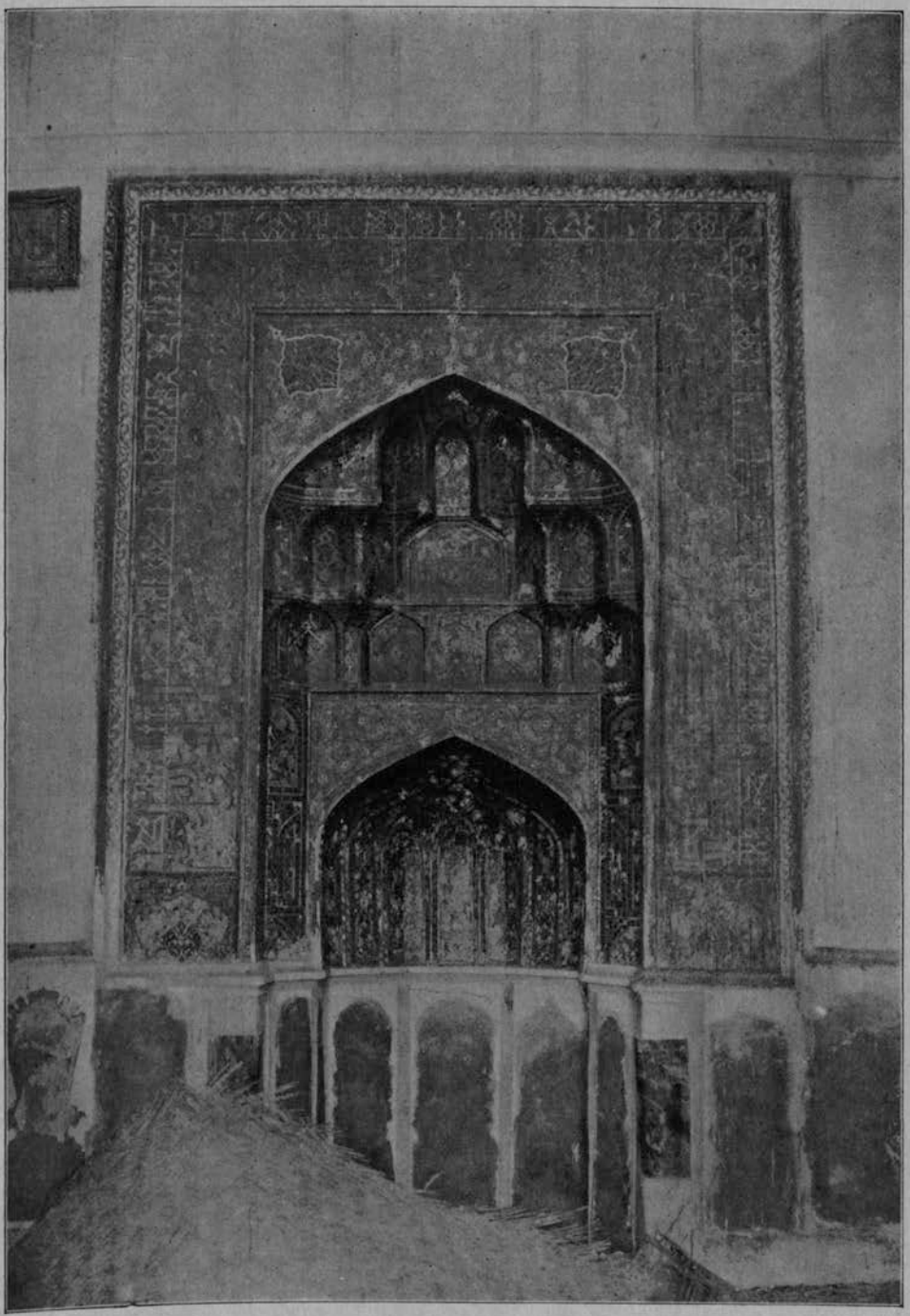
Labihavs-i-Divambegi means the bank on the pond of the Divambegi. It is smaller than Rigistan, but prettier, the pond being on all parts surrounded by large, shady elms and apricot-trees by which shops and straw-tents are protected from the dreaded summer sun. The pond is square; one side is about 40 metres, the other about 30. 7—8 steps lead down to its water, which is always of an unpleasant indeterminable colour. On the three sides it is enclosed by a dense mass of chaikhanéhs, fruiterers' and confectioners' shops, tables with warm and cold dishes shaded by durra-mats, barbers', cuppers' and surgeons' shops and shops where leathern bags and inflated hides are sold. On the western terraced side is a large medresse, Medresse-i-Labihavs-i-Divambegi, built by a certain Nasr, the Divambegi of Imâmkuli-Khan; he is said to have also laid out the pond and the market in the year 1629. The medresse (madrassa, as the word is pronounced by Bokhara people) has a very pretty chief porch, its fronts are decorated with sham bows in two stories, and here and there part of the old majolica ornaments of very good workmanship is still left. In front of the medresse are large shady elms, and story tellers, medhas, sit on the

flagged place reading aloud about prophets, renowned warriors etc. to the listening multitude from whom they receive now and then a small sum of money. In front of the medresse is also a market place for cotton and corn.

Labihavs-i-Divambegi is like Rigistan as lively as a bee-hive. People hustle and push one another, bargaining, crying and scolding, steam from samovars and cauldrons, smoke from water-pipes and stench from the boiling and fried dishes form a cloud over a swarm of white, red and blue turbans, above the pond and the stone terraces which are the favourite play grounds for children and the stage for buffoons and jugglers. In this neighbourhood the apothecary Reinhardt has his chemist's shop which is very much frequented by the natives, whose confidence he has gained to a great extent. For many years he was the only European who was allowed to live at Bokhara itself, and his chemist's shop was among the best assorted I ever came across in and outside Europe. The last time I visited Bokhara the Russian company of Caucas-i-Mercur, too, had obtained permission from the Emir to take up their abode in a serai close to the large chahrseh.

From the fruit market of Labi-havs-i-Divambegi at Bokhara.

A third place worth mentioning in preference to the many others, is the maidan between two of the largest and finest buildings at Bokhara, the medresse of Mir Arab and the mosque of Mashit-i-Kalân. In this place life is extraordinarily gay. A large part is taken up by the cotton fair where the cotton packed in large bales is loaded on magnificent large camels or arbas. There is a continuous passage of caravans to and from the market; they are loaded and un-



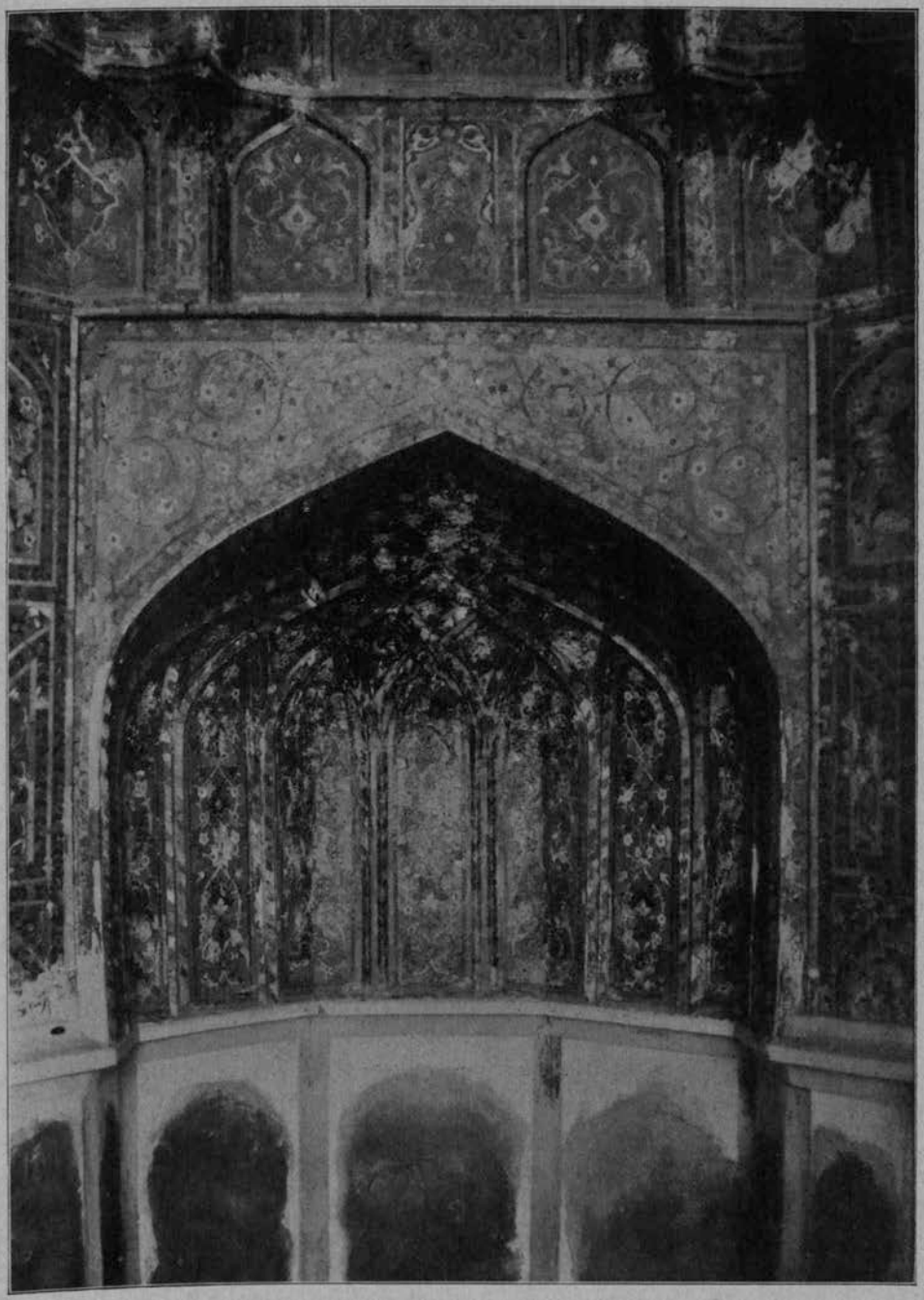
A corner in Mashit-i-Kalân.

loaded, and the number of mullahs hurrying to and from the mosque or medresse is nearly as great. Round the numerous fruiterers' tables, shaded by the durra-mats, many women are seen bargaining; like ghosts they move about wrapped up in the blue farandjé and with the horse-hair's veil before their faces; on their way between the fruiterers' shops they are silent and bargain in a low voice; for it is not considered proper for strangers to hear the sound of it, no more than to see their faces. Calandars and dervishes seem to have selected this place for their special basis of action, the prospect of silou (tips) from the well-to-do cotton merchants and caravanbashis is possibly greater than from the small merchants in the bazar streets; and no caravan man on moving off forbears to secure the intercession of the calandar or dervish for his journey through steppes, deserts or dangerous mountain regions. All this is familiar to the Islamitic monk, who is aware, too, that caravan people, whose wages have been paid to them here on their expedition being at an end, are not sparing of alms. In this respect they are very like sailors; the journey at an end and the wages paid in the large town, the port of the caravans, they enjoy themselves as well as possible, eat, take tea, gamble in the chaikhanéhs, and give alms to every one who asks for them until the last Pul has been spent; then they again spring into the saddle to follow their new master whereever he likes.

The whole market resembles a magazine of saleable articles, mat tents and tables lie close to the walls of the mosque and the medresse, and even on the stairs of these temples there are merchants. When a larger caravan of camels or creaking arbas sets out like a detachment of cavalry or artillery, everybody runs away in all directions to save life and limbs to which not much regard is paid; nor is it claimed either. That an arba drives through the wares of a fruiterer, or that a camel trudges through a crowd of bargaining merchants is taken quietly as a thing not to be avoided.

Two of the most renowned buildings of Bokhara, being also two of the finest and most interesting, face this market.

First, there is Mashit-i-Kalân, the large mosque known all over Mid and Central Asia. In this the Emirs always held their Friday prayer in former times in a large procession to and from the mosque, Kasi-kalân himself presiding over the ceremonies of the prayer. The mosque is very old, how old is unknown, but at any rate Jenghis Khan passed through its gates on horseback in the year 1219 and from here ordered the plundering of the town. It is



From a niche in Mashit-i-Kalân. Majolica and stucco.

said to have received its present form from Timur, and the other renowned builder in Bokhara, Abdullah-Khan, restored and embellished it. A small, even if very small evidence in this respect is yielded by a font hewn in stone in the yard of the mosque and in appearance quite like a baptismal font. It may possibly have belonged to the former Christian congregations in Bokhara who were on good terms with the Avesta people, and on Islam being introduced, it was perhaps stolen from the Christians and placed in the mosque to be used at the washing which precedes the prayer. In other places in Mid and Central Asia I have, however, come across stone-vessels which were employed in quite the same way as the font at Bokhara, even if the form was not exactly that of a baptismal font. But these stone-vessels are rare, and the possibility is not precluded that all of them are derived from the Christians, even if one, for instance, at the tomb hills between Khodshely and Kona Urgendtsh in Khiva is provided with an Islamitic inscription which may have been added later. On the font at Mashit-i-Kalân is no inscription which would be able to bring us nearer to the truth. It is not impossible either, that Mashit-i-Kalân in another form was formerly a Christian church or a Buddhistic temple. A thorough examination with appertinent excavations both in this mosque and the neighbouring medresse, Mir-Arab, would possibly be worth while, but it will meet with great difficulties both from the clergy and the people; those best able to overcome these difficulties are, of course, the Russians.

The beautiful front of Mashit-i-Kalân faces a small square maidan. At the centre of the front is a great porch and on both sides pointed sham bows covered with splendid majolica. From the maidan a flight of stone-stairs leads into the archway whose inner side is shut by a gigantic wooden gate where there are remnants of the fine carved work in Persian patterns which together with the majolica recall the flourishing age of Bokhara. The gate is always closed but with official permission one is let in by the clergy. Through the gate we enter a hall with three separate passages covered over by imposing, pointed majolica-clad vaults supported on two ranges of massive stone-pillars, and we now look into the yard of the mosque, which is rectangular and encircled on all sides by high massive buildings, all with rows of pointed niches reminding one of colonnades at first sight. Just in front of the gate rises an enormous, pointed majolica-clad porch (pishtak) crowned by a huge cupola which is everywhere covered with green majolica. Smaller porches

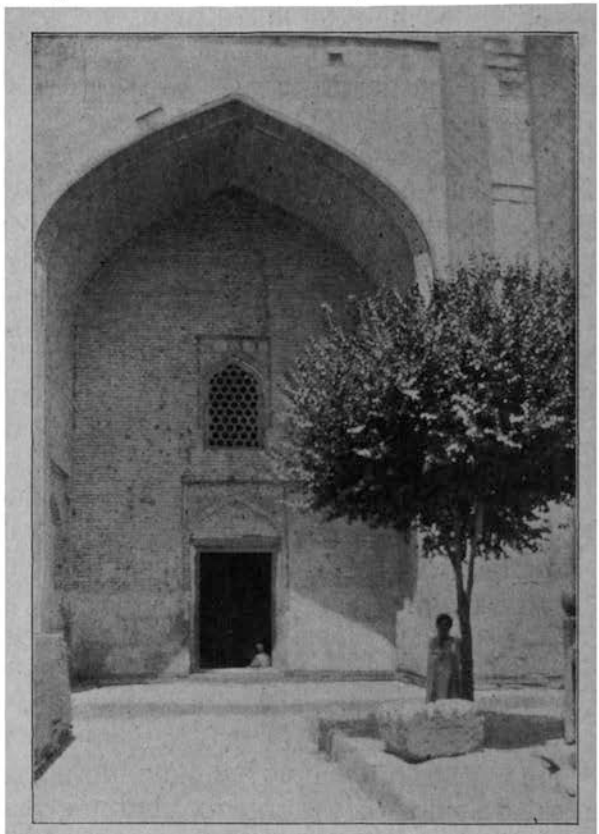
From the interior of the mosque of Mir-Arab. The tile mosaic, formerly covering the whole of the walls, is still in partial repair.

are found on the side-wings to mark out the centres of the sham bows. Under the cupola is a large room intended for an everyday mosque of prayer for the clergy and the natives who visit the mosque. If there is not room enough here, divine service is held in the open yard of the mosque where about 10000 people are said to be able to kneel to pray. In the open yard is the adane and the above mentioned font, the latter just to the left of the hall, the former near and just before the pishtak with the cupola. The ornaments of majolica are both larger quadratic tiles whose figures go together to form a whole, or mosaic whose small carefully shaped and glazed tiles are joined together artisticly in Persian patterns and Saracen style; the impression conveyed is very imposing both owing to the beauties of the style, the play of the colours and the splendid workmanship. The niches and roof of the mosque are the home of myriads of pigeons, and the cupola, visible all over Bokhara, is full of storks' nests.

In the maidan close to the entrance of the mosque rises the largest minaret of Bokhara, belonging to the mosque, but no doubt younger than the latter. If, as I have it in the chapter on the tombs, it was built by Il Arslan or Alp Arslan Khan, it agrees very well with the age of the mosque itself. Native ecclesiastics told me that it was built by Timur. The minaret consists of pretty burnt tiles pressed into patterns in such a way as to ornament its exterior with various rings of geometrical figures. Rising from a mighty basis, it tapers upwards, widening at the top which is provided with a fine parapet. Corkscrew-stairs lead up into its top from which the mueddin cried out formerly the prayer over the city. Now it is not employed any more, according to report owing to the fragility of the interior, but the reason possibly is that it is not allowed any more to throw criminals down from its top; this was forbidden by the Russians after the last execution which took place in this way in 1888; it has therefore received the name of "The Tower of the Dead". On its top is now a gigantic stork's nest.

Just opposite to Mashit-i-Kalân is the medresse of Mir Arab, as renowned, and erected in the year 1429; it contains about 100 cells for collegians, and the number of mullahs is given to be about 200. Its architecture is simple but very fine. The whole building is situated on a high platform of stone up to which lead stairs. As is usually the case in these buildings the front is adorned by a mighty porch flanked by pointed niches in two stories; here are the entrances of the cells of the collegians. Each wing is flanked

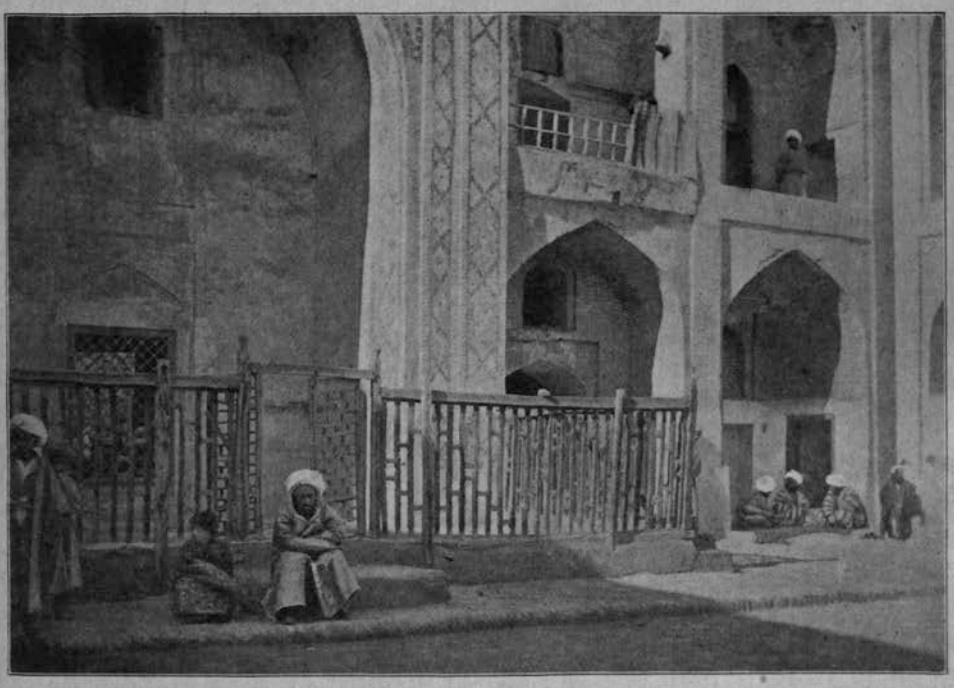
by a round tower. Most imposing are the two large cupolae on each side of the porch. The cupolae are quite covered with greenish blue majolica, and on towers, front and niches are still very considerable remnants of the beautiful old kashis whose ornaments of flowers and geometrical figures shine in the splendour of the sun in white, green and blue. The inner yard is square with cut off corners, all four wings being decorated with porches with intermediate niches, whose vaulted roofs are ornamented with stalactites; the magnificent majolica with its fine clear colours looks splendid and is practically uninjured.



Entrance to a new mosque in a maidan outside the town of Bokhara.

The most interesting room in Mir-Arab is the historical sepulchral chamber to the left of the entrance to the yard. As previously related in the chapter on the tombs I found an opportunity to enter this chamber, but had to disappear as fast as possible owing to a riot made by mullahs and natives in the street and caused by my presence here. The room was large, the vault pointed with a covering of majolica, the light penetrated but sparingly, but fortunately so much from below that I could survey all the many kabrs on the floor which contained the mortal remains of renowned saints and teachers. It is a real little Bokharan Westminster. As far as I was able to see in the hurry, all the kabrs were pointed, some covered with majolica, others with carved wooden plates or plaster. Flags, old spears and ox-tails on long staffs were placed all round. I was furnished with sketch-book, drawing implements and camera for the examination of this sepulchral chamber which, so far as my

knowledge goes, has not been mentioned before; but I had to get away as soon as possible from the furious mullahs and the mob which had joined them. My fellow-travellers and I, accompanied by the emissary of the Emir, got away without fighting, but only at the very last moment. Demonstrations on a smaller scale took place, indeed, now and then during my visits in saints' tombs and on the burial grounds, but some money always settled the question.

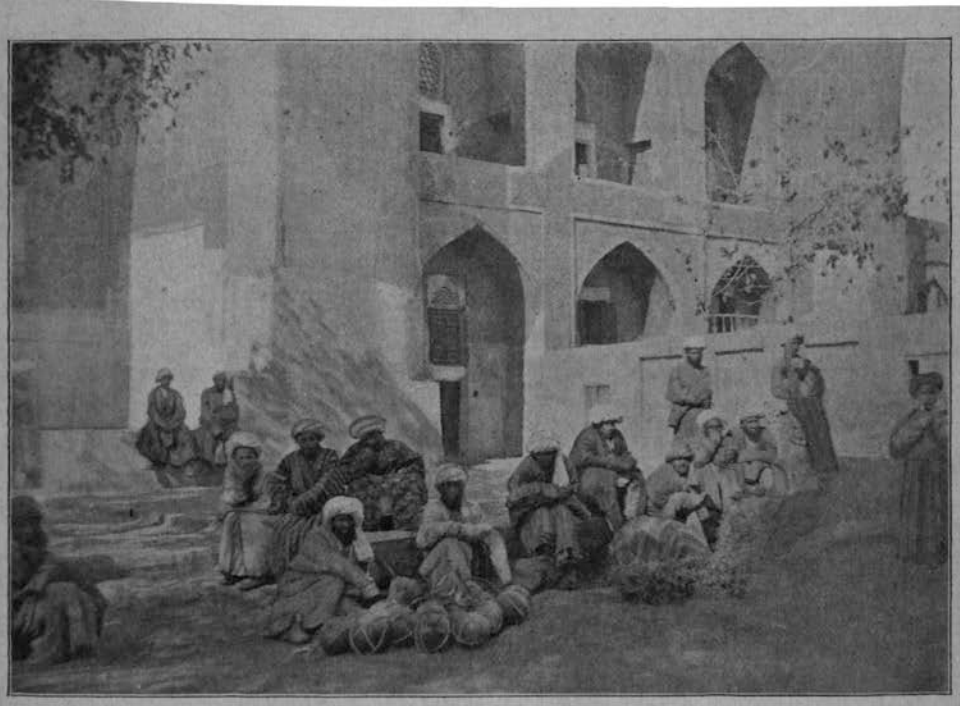


From the interior of Medresse Kökel-Tash.

But not in this case, from which I presume that the sepulchral chamber must be a special sanctuary at Bokhara. It would be interesting to have this mystery cleared up.

The place between Mashit-i-Kalân, its minaret, the Tower of the Dead and Mir Arab is always frequented by lepers; blind, disfigured and stunted they sit on small mats and lean against the walls, begging money with their small round wooden vessels which they stretch out towards the passers-by. The lepers have, indeed, their own quarter, but at the town-gates, mosques and in a few side-streets they are allowed to beg which is, of course, very favourable to the wider spread of the contagion.

Bokhara has beside those named already a considerable number of mosques and medresses. Not far from the place just dealt with at the end of a street, Kyaban, planted with trees beneath whose shade are shops and retailers' tables, is a fine little mosque called Mashit-i-Lahihavs-i-Mir Dostum. It has a beautiful minaret, very like that of Mashit-i-Kalân, but much smaller, and a cupola. Passing on a little way towards the centre of the town, we come across



Mullahs and merchants outside a mosque at Bokhara.

two of the finest medresses of Bokhara, Medresse-i-Abdullah-Khan and Medresse Mader-i-Abdullah-Khan, or as the latter name is shortened, Mader-i-Khan. Both these medresses were, no doubt, built or at any rate very much restored by Abdullah-Khan. The former is, however, said to be much older than the latter, namely from the 14th century. They face each other, and in the space between them there is a very considerable traffic. The fronts of both are decorated with high porches. The inner court of Abdullah-Khan is small with cut off corners and four porches, one at each wing, whereas Mader-i-Khan's inner wings have but two porches. Porches and niches in Abdullah-Khan are adorned with a splendid

majolica, uninjured in most places, but the majolica of Mader-i-Khan, which is much more ordinary, has to a great extent been removed or has fallen down.

Opposite to the Medresse of Abdul Asis Khan is the fine Medresse of Mirza Ulug Beg. These two enclose a much frequented street where there are great numbers of confectionery and sweet shops. Both have a high porch and are decorated with front niches in two stories; they are covered with magnifient majolica, for the most part in good repair in Abdul Asis Khan. On the wings of both of them are small thimble formed towers, and on each side of the porch of Mirza Ulug Beg is a belt of Arabian inscriptions in white on blue ground. There are as in the fronts porches of the same kind in the courts, here, too, decorated with majolica.

Not very far north of Labihavs-i-Divambegi are again two larger medresses, namely Medresse-i-Mullah Nasr and Medresse Kökel-Tash; in the latter, built in the year 1426 and with 150 cells, are still some remains of majolica kept in repair in the inner court.

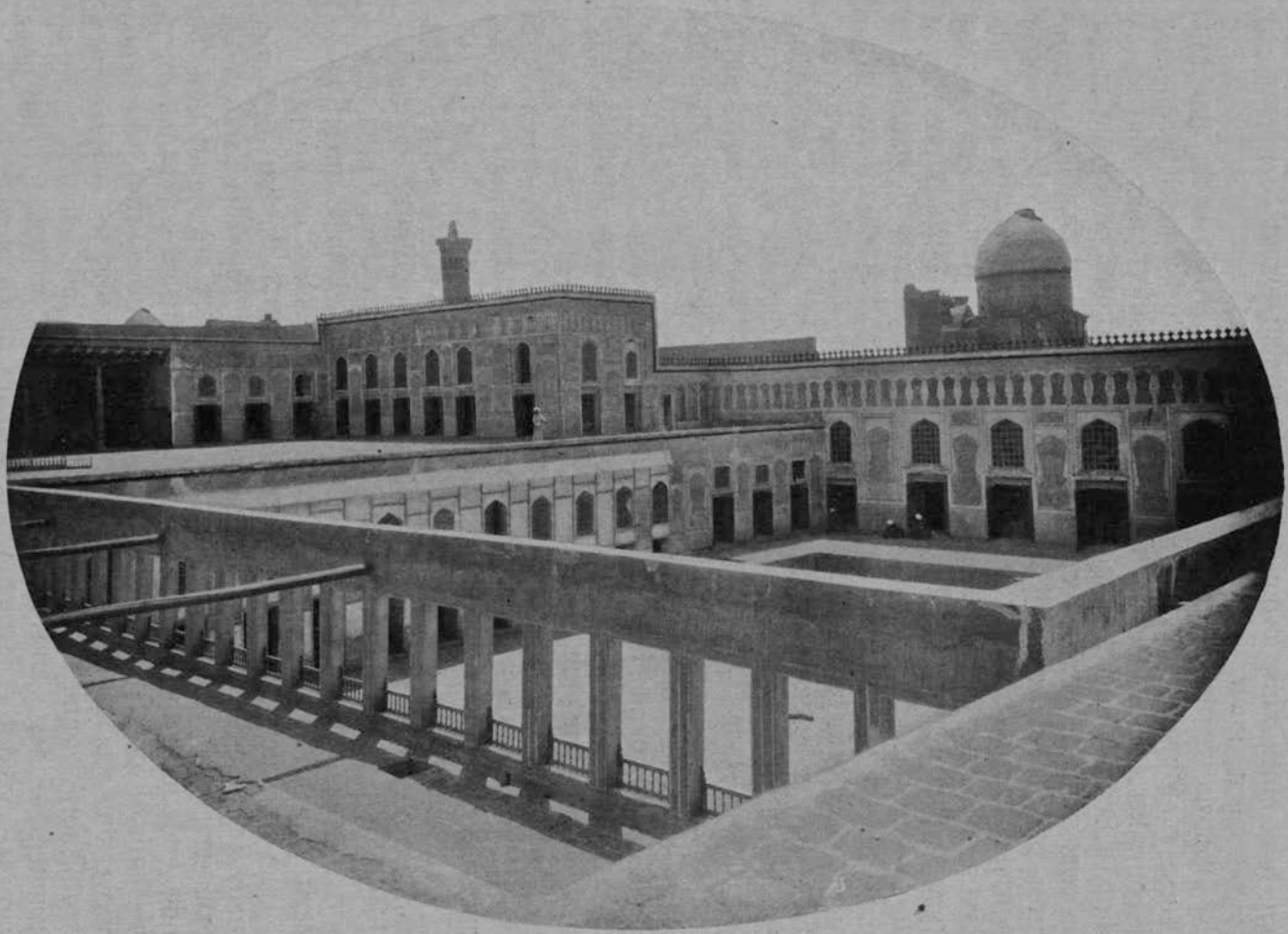
At the most extreme end of the town are Medresse-i-Juibar, erected in 1582, and Mashit-i-Khodsha opposite to each other and with the pond, Havs-i-Nau, between them.

Near Ilti-khanéh are Medresse-i-Nakib and Medresse Tatju-Ajim, close to one of the chief entrances of the mosque Mashit-i-Gaukshan with a fine minaret.

Further may be mentioned the small fine Medresse-i-Topshi Bashi with a porch adorned with stalactites and magnificent small minarets on each wing of the front.

Among the mosques must be reckoned the many saints' sepulchral tombs, Hazreti Imle or Ümle, as it is pronounced by the natives, Ayup Paigambar, Baha-Eddin etc., which are employed as a sort of mosques for the daily prayer, but these have already been dealt with in the chapter on tombs and sepulchral chambers.

To the open places at Bokhara can be referred the burial grounds many of which are very large, one by name Khodsha Yandy even extending over about 40 tanap of land. They are found both inside and outside the walls, covered, so to speak, everywhere with no end of pointed brick sarcophagi, often in several stories one above the other. Here and there the uniformity is relieved by a large kabr, a gumbas, a tokh or alam. They are haunted by great numbers of dogs and magpies, and one is obliged to take great care to avoid the former when walking about among the sarcophagi; generally one has to jump from the roof of one to another;

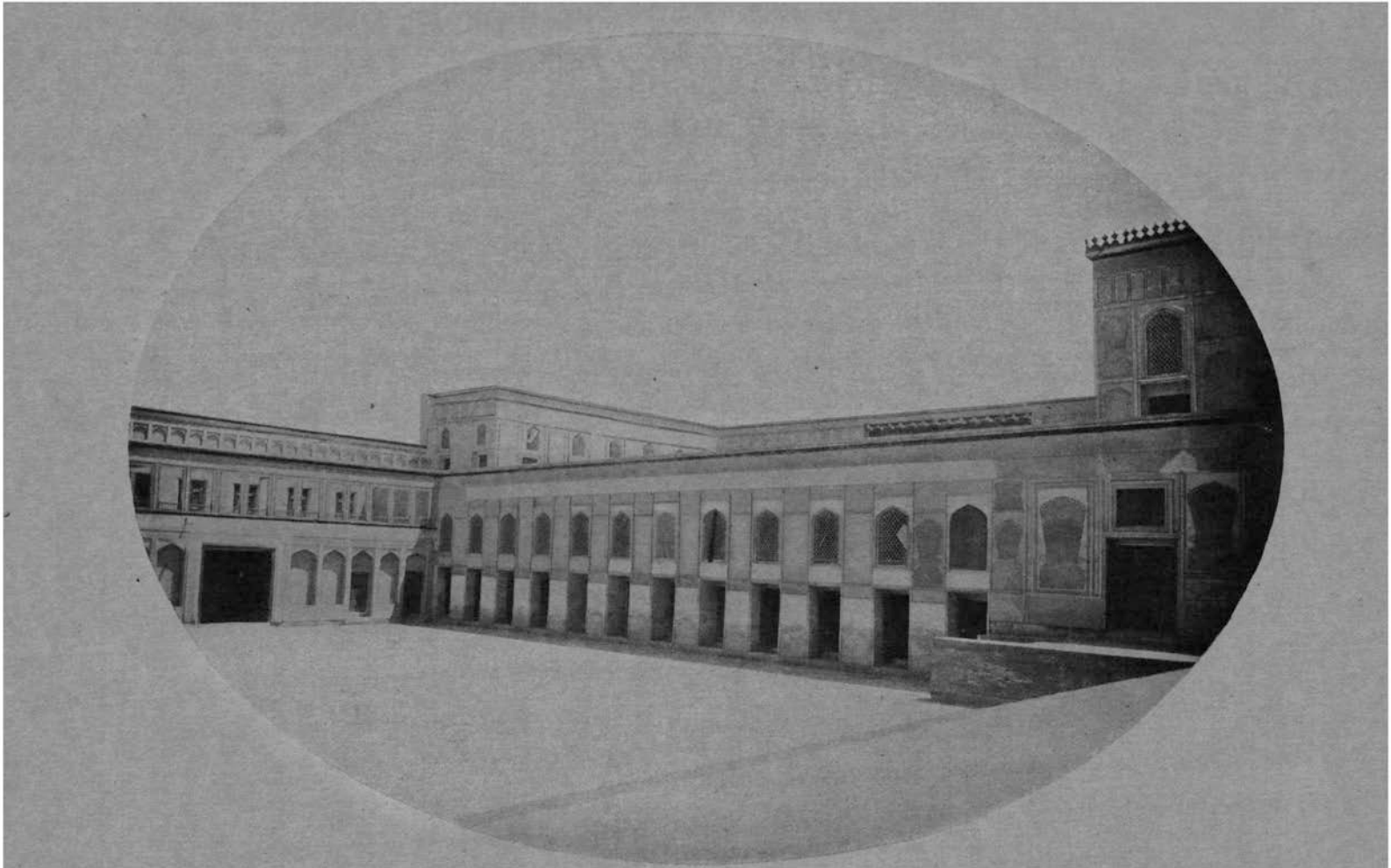


The palace of Quyi Hauli at Bokhara. In the background the Tower of the Dead and Mashit-i-Kalân.

for if one happens to disturb such a dog or to tread on him, he will rush at you; all the curs around will start up, coming together in crowds and making such a noise that great numbers of natives are called hither; and then one is obliged to leave the spot immediately, for a European visit is very unwelcome here. If one wants to come to see the tombs undisturbed, one has to steal away to a saint's sepulchral chamber without exciting notice and pay one's respects with due silou to a sheik. If one succeeds in gaining him over, one has nothing to fear; the crowd of natives are soon removed by his order on learning that the European is a foreign pilgrim who pays a devout visit to the sacred places. It is always advisable to put on high boots when visiting these places and to avoid placing one's hands anywhere, both owing to the great numbers of snakes and scorpions found here, and because sarcophagi, trees, saints, tombs and the staffs of the yak-ox tails are often smeared with matter from the running sores of the sick natives or hung with sick people's rags which have touched the suffering parts of their bodies; they hope namely that the holy spirits will then take away their illness. There are thirteen of these burial grounds. Hazreti-Ishan Imle is the cemetery of the Emirs where the father of the present Emir, Mussaffar. Eddin Abdul Khan, his grandfather, the cruel Nasrullah, Emir Haidar, Emir Shah Marat Djanat Mâshâné are buried beneath kabrs which, compared to the kabrs of common mortals, are remarkable for their size only. The tombs of the Emirs are not decorated with any alam or tokh which proves a certain sense of justice among the ecclesiastics when judging of the worth of man and at the same time their enormous influence.

As the tombs of the Emirs are not superior to the level of common mortals if not belonging to Emirs who have rendered services to the Islamitic faith, so the same is the case with the outer appearance of their palaces. They are not adorned by cupolae or spires; it is the temples of religion only which are allowed to rise above the secular, flat uniformity.

Besides the Ark, already described, there are inside the walls the palace of Kâplân and Quyi Hauli (Lower Palace) and outside the walls Staraмâkâsá, Shehrbedén and Karí in the large garden, Châhbâgh. Visiting all of them we saw how they were fitted up. Typical of all is the high unostentatious clay-wall which encircles them and prevents everybody from without from seeing what takes place inside, further the large four-winged courts where many doors in pointed niches lead out to the platform, aivân, the plastered lat-



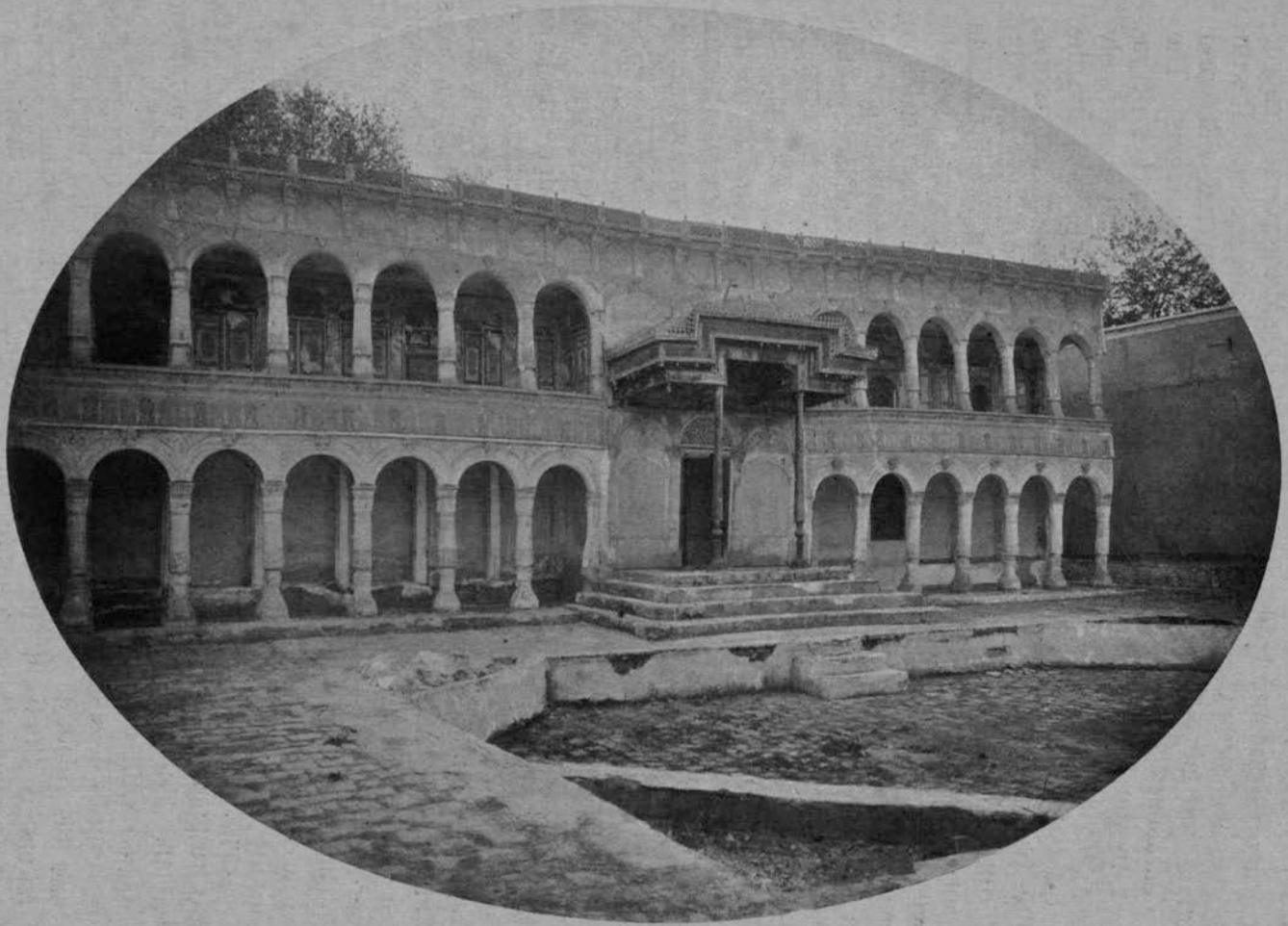
Yard-front in Quyi Hauli.

tice windows, the lower court-yard, the doors carved with geometrical figures, the painted ornaments in wood and the painted stucco. The vaulted ceilings form pointed bows and are decorated with painted and gilt stucco, the flat ceilings are either covered with wood that is carved or gilt, or decorated with bark-stripped fagots. The walls in the finest rooms are adorned with plastered niches of various size and adornment. In all palaces there are a hall of assembly and a harem with balconies and alcoves and a bath-room, and the only place where there is a sort of corridor is along the alcoves of the harem to each of which leads a special door.

The palace of Kâplân is situated on the western outskirt of the town. It has a very large yard and no end of rooms. The women's court is situated by itself together with harem and the baths; in the latter there are two enormous looking-glasses in which the bathing ladies can admire themselves in natura. The palace is built in two stories, but the upper one is so low that even the smallest man cannot walk upright there. In the assembly hall and the harem a wooden balcony with painting and gilding runs along the upper story. The high rooms end in a low pointed vault with stalactites decorated with stars in gold and blue. The whole furniture belonging to the palace consisted in large heaps of carpets and Russian and Chinese tea-pots.

Quyi Hauli is situated a little west of Rigistan. It is very large, built in two stories enclosing a large court-yard. Round the latter are platforms to which lead numerous double-leaved doors and windows without glass with carved shutters. The fronts are decorated all over with painted stucco in which pointed lattice windows of plaster are very finely set. The rooms in the interior are mostly furnished with flat ceilings and all the walls with pointed plaster niches with an offset at the height of an ordinary European window-sill. Inside painting and stucco are more simple than elsewhere in the palaces; but on the whole it is fine and in good style.

The palace of Staramâkâsá, situated at about 4 versts northeast of Bokhara, was built by the present Emir in the year 1892. Half of the extensive palace is built in Bokharan style with rooms furnished with niches, painted stucco, painted wooden ceilings and an enormous assembly-hall with a platform in the centre for the Emir and his relations and lower seats at the sides for his officials. The harem is fitted up magnificently with alcoves, balconies, painted bows between the columns in Moresque style and many railings and balustrades in places where it is difficult for a European to see



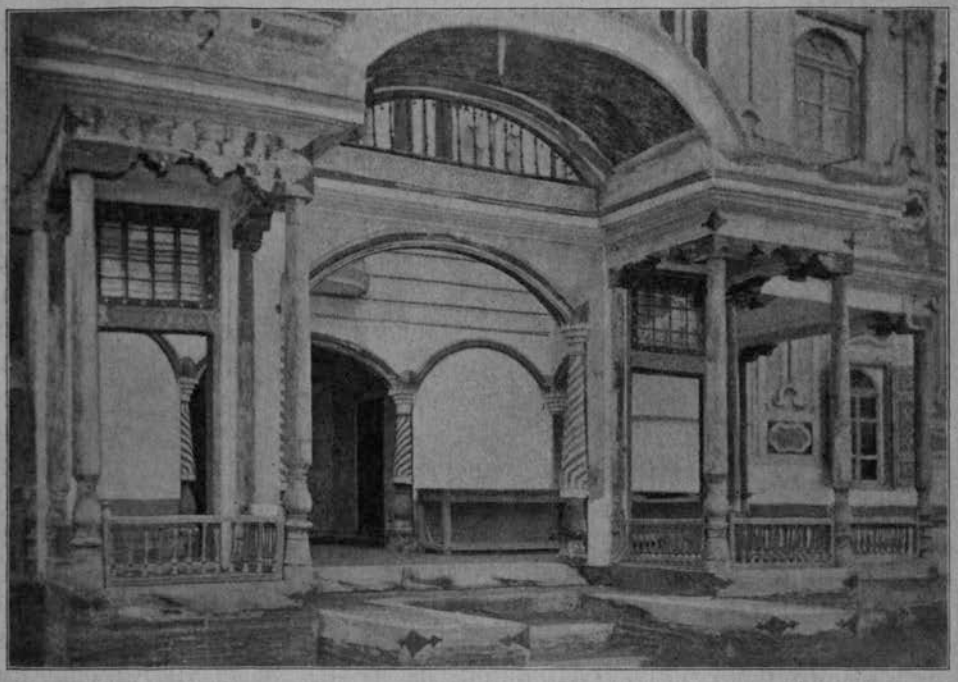
Yard-front from the interior of the palace of Shehrbedén.

their use. The whole pile with its painting, gilding and mirrors set in the walls is a real fairy-palace. It is encircled by extensive gardens abounding with all sorts of fruit, and numerous walks are covered by a roof of vines. The other half of the palace is fitted up in quite European style with flat ceilings, windows with glass, curtains and hangings, pictures on the walls and European furniture. During my visit it was empty, and everything was dusty and covered with cobweb.

The largest Emir palace is Shehrbedén situated at a distance of about 3 versts outside the walls on the road to New Bokhara. All round are clay-walls about 10 metres high. Like the palaces dealt with above it has flat roofs and is surrounded by extensive and magnificent gardens with all kind of fruit, flowers and rose-bushes and irrigated by numerous canals with cool water and ponds amidst flower-beds.

Through the main gate in the wall we enter. a chief avenue flanked by arcades in which the Emir's body-guard draws up in double file on solemn occasions. Then follows a smaller fore-court surrounded by high wings with aivân in front to which lead stairs from the inferior court-yard. The buildings are built partly of brick, partly of wood; the decoration is stucco with painting and gilding. The central part of the main wing rises nearly one story above the rest. Here is the audience room of the Emir fitted up magnificently with niches, stucco, painting and gilding, wooden balconies and columns. On a platform is placed the throne of the Emir, a present from the Russian Emperor; the floors are laid with splendid carpets. The other wings are divided into numerous large rooms, either with flat ceilings or vaulted, as in the palace of Kâplân, and occupied by the numerous members of the Emir's household. After passing through the audience room of the main front we reach a real fairy-court where the back of the main front which faces the yard is adorned with colonnades and stairs of marble, and where the other wings with their aivâns are decorated with painted and gilt columns, Moresque arcades, pagoda-like verandas and charming, tiny balconies. Here is the women's court proper with harem and baths as mentioned in another place, and from here there is from the inner rooms a splendid view across the semitropical gardens. The wings here contain vaulted pointed rooms, harem rooms with alcoves and balconies, baths far down in the ground with fountains, but the labyrinth of corridors is so intricate here that a description is impossible. There is here a vaulted harem room with balconies

and alcoves where the Emir has arranged a sort of museum of European nicknacks, such as crowing cocks, crying dolls, self-playing instruments, singing birds etc., a complete toy-magazine which he left at the disposal of his harem ladies and their numerous children. This chief palace is situated on the western side of the road from Old to New Bokhara; on the eastern side of the latter the Emir has erected a smaller building to be used as a depot for provisions,



Painted wooden verandas in the yard of the palace of Shehrbedén.

stables and quarters for inferior officials. The latter palace is like the former surrounded by a large and well irrigated orchard.

The palace of Karí in the garden Chârbâgh (Four Gardens) is situated at a distance of about 4 versts southeast of Bokhara. I visited the place in the month of June when apricots, grapes and apples were in full bloom. It is somewhat smaller than the other palaces and contains some rooms beautifully decorated in Bokharan style, especially one, where the architect himself has inserted an inscription with the words: "This is fine, indeed", which cannot be denied either. The vaulted ceiling with stalactites and twisted ropes in plaster with painting and gilding, the beautiful niches

with stucco of flower garlands in all colours intermixed with geometrical figurs made an imposing effect. Near the palace the Emir has a large lake overfilled with reeds. The crop of reeds is let at a price of 10000 Tenga a year.

Among other prominent buildings in Bokhara may be named the serais, the Oriental hotels, which are at the same time commercial houses. Their architecture is very like that of the medresses as dealt with in another chapter. There are altogether twenty odd; most of them are built of bricks, the others of clay and wood. The majority belong to the Government, the higher officials or are church property (vakuf); the owners let them to private persons at a price of about 300 Tilla a year. They are either named after the person who has built them or after the article specially sold here, thus Serai Abdullah-Khan, Serai Hazreti Amir, Serai Gelimjan, Serai Tamakú (tobacco), Serai Birindsh (rice), or after the race resorting to them, thus Serai Hindi (Hindoo), which is so despised by Bokhara people that it is considered shameful even to look in, to say nothing of staying there, and Serai[1]) Juhud (Jews) where coloured silk, the speciality of Jews, is sold. Nor does any Bokhara man enter the latter, which is, however, thought to be much purer from a religious point of view than that of the Hindoos. In the serais the foreign merchants put up on their arrival to Bokhara. They hire a certain number of rooms for themselves and their caravans and in these unpleasant caves one must apply to obtain Afghan, Indian, Persian, Chinese or other products from distant countries. The foreign merchants generally live here until they have sold their goods and then buy Bokharan products to take back with them. When the passes in the mountains become free from snow, these birds of passage begin to arrive, and they disappear before the same passes are again barred by winter.

Public baths (Hammâm or Hammum) exist to a number of about 20 at Bokhara; like the serais most of them are established by the Government, the Emirs or the higher officials or by the church (vakuf) who let them to private people. The baths are in high favour with the natives and are very much frequented. They are, indeed, very cheap, the price for a bath being only about 10 Pul, and if one wants to have one's head shaved at the same time, it is 1 Tenga. As a rule they consist of a larger vaulted room where the light enters from above through coloured glass. In this

[1]) Serai or Sarai; the latter is the vulgar, but most common pronunciation.

room one undresses, and from here doors lead into various side-rooms with different temperature. In several baths both the first vaulted room and the side-rooms are covered with majolica. The rooms are filled with vapour and the bath consists in one's being washed with soap and douched with hot and cold water, and in shampoo; during this process the bather is placed, now on his back,

The Emir's gilded throne-chair in the palace of Shehrbedén.
(Pillared veranda facing the garden.)

now on his stomach on a carpet spread out on the floor. In the evening the baths are lighted with small clay-lamps (chirâk). In several baths neither women nor infidels are allowed to appear as the water, according to the ecclesiastics, will then change into blood. Some of the largest baths are: Hammâm-i-Abdullah Khodsha, Hammâm-i-Bazar-i-Khodsha, Hammâm-i-Nau.

Order at Bokhara must be considered extremely well maintained, on the whole; fights are practically never seen, the reason is, no doubt, that alcohol is not permitted by the native Government. In

each quarter an Aksakal reigns whose authority is always respected; he supervises the maintenance of the hours of opening and closing, levies the tax to the Emir and settles disputes between the merchants. Apart from this the dreaded Raïs rides through the streets, while his spies are always on the move. A few hours after sunset everybody must be within doors, and if any one walks in the street after that hour, he is stopped mercilessly by the watchmen, the so-called Körbashis, who take him to their Mirshab, a sort of police inspector. Each quarter has its Mirshab and a certain number of Körbashis. Small troops of the latter continually parade in streets and bazars in the night, beating their tambourinelike drums without intermission, that people may hear that they are awake.

In spite of the prohibition which, of course, did not include us, being the Emir's guests at Ilti-khanéh, I often took a walk in the evening in streets and bazars. No trace was seen of the swarm of men and animals of the day; we met none but the watchmen with their old spears and their wooden lanterns with the panes of paper; they looked astonished at the foreigner but let him pass; one evening, however, I was asked by the guard to go home to my quarters and remain there, and as the prohibition is so strictly observed as in this case, I must presume that it is very rarely trespassed against by the natives. It was with a curious feeling of discomfort that I moved on among the gloomy clay-houses, mosques and medresses. Here again I was confirmed in my opinion of Bokhara being the country of the great contrasts: the gay swarm of people in the day and the strict barrack order at night in the residence of the Emir is analogous with the contrasts in the nature of the country.

Karshi is the second greatest town of Bokhara. It has about 25000 inhabitants, mostly Usbegs, but there are also some Tadjiks, Hindoos, Afghans and Jews in the town. The latter are here allowed to ride in the inner town which they are forbidden to do in the other towns of the Emirate, and especially at Bokhara. They have a very primitive synagogue.

Karshi is celebrated for its large magnificent orchards. It is a very important commercial town, and although the transit-trade with Afghanistan and India is less than in olden times, it is considerable even now; the caravans of many Afghan merchants especially arrive here. Formerly its knife-industry was much spoken of, principally damaskeened blades, here as at Hissar, which were inlaid with threads of silver and gold. They were exported to all neighbouring regions,

and although this industry has declined, fine articles are even now produced.

Karshi has a large bazar where the principal articles of trade are wool, meat, confectionery, silk and the excellent tobacco from the large tobacco-plantations near the town. It is situated in the southern part of the new town where the Turkomans arrive with their fine carpets. Saturday and Monday are the principal bazar days. The bazars are both large and rich and are supplied with great quantities of Russian articles of trade, and there is a lively crowd in the streets which are covered with rafters, rice and mats. There is here a chahrseh from the time of Abdullah-Khan, Tak-i-Abdullah-Khan. Besides there is a very old hammâm (bath). The excellent raisins of the oasis are renowned in Bokhara. The town had once a very large slave-market supplied chiefly by the Turkomans. There are several large public baths where the water is heated by means of glowing stones furnishing a sort of stove-plate. With the bath one gets the vigorous shampoo that is well-known in the Orient and more like a sound thrashing than anything else.

Karshi is the ancient Nakhsheb; it received the Mongolian name of Karshi under the Mongols (Karshi means castle or palace) when the Jagataic prince, Kebek, built a castle here in 1318. It has, no doubt, formerly been encircled by three concentric walls; now only a low, decayed, crenelated clay-wall with many gates is left. Outside the clay-wall is a moat across which bridges lead into the town. The latter consists of the town proper and the citadel of Kurgantshé with splendid gardens where the Beg resides. It has 10 caravanserais among which one for the Hindoos, Serai-i-Hindi.

That Karshi is one of the well-to-do towns in Bokhara is for one thing evident from the fact that the Begs and several merchants employ glass in their windows instead of oiled paper which is commonly used at Bokhara. The heirs apparent of Bokhara often resided here, as Karshi is a lively town with special amusements of various kinds. It has a place of public resort, a large garden, called Calandar-khanéh (beggar house or calandar monastery), situated on the bank of the river. Here the fashionable world promenades from 2 o'clock in the afternoon until sunset or they take black or green tea that is exposed to sale from the large samovars set up there. The inhabitants are of a very gay temperament which is, on the whole, typical of the Usbegs, and they pass for the Shirasies of Bokhara.

Most of the mosques and medresses are from the time of Abdul-

lah-Khan, for instance Meshit-i-Ark. Medresse-i-Shir Mohammed is said to be only 25 years old. Further there is Nâmas-khanéh Medresse. In the town is a Sardabé (abdar or havs-i-âb), a brick-built water basin with a cupola, into which the water runs down from ariks. A broad flight of stairs leads down to this basin that was built by Abdullah-Khan.

At Karshi, as at Bokhara, there is a Rigistan, a small square market-place, encircled by two medresses and a mosque. The mosque is the large Friday mosque, Meshit Nâmas-i-Djuma from the time of Abdullah-Khan; it occupies the south-western side of the market-place. To the northeast rises Medresse-i-Abdullah-Khan; the structure of the latter two is simple, and they are not covered with majolica. The northwestern side of the market-place is bounded by Medresse-i-Châribai of more recent origin.

About a quarter of an hour's ride outside the town is an old sepulchral mosque (Mazar) from the time of Timur. It is called Ko-Gumbed and is one of the finest buildings in Bokhara. It has a high porch, seven stone-vaults, cupola with sea-green majolica; and owing to its harmonious architecture and rich majolica covering it is a very fine phenomenon amidst the old high chinars (platanes) which surround it. On the top of the cupola are a great many storks' nests. Twice a year, during the Ramasan and at Kurbân-Bairam or Kurbân Nâmas (in commemoration of Abraham's offering of Isac), many make pilgrimages to Ko-Gumbed.

The neighbourhood of Karshi is, by the way, famous for its many djigda-trees.

Across the river Kashka Darya was once built a brick bridge by Abdullah-Khan which is still in good repair. In the village of Faisabad, about 15 kilometres west of Karshi are ruins of a Sardabé, likewise erected by Abdullah-Khan.

At Karshi all important commercial roads meet. The large caravanserais, thus Serai-i-Ali (the name suggests that Shiitism has had a resort here) which belongs to the Emir, is frequented especially by the Afghans who with their raven-black beard and white dresses form a strong contrast to the local natives.

We shall deal briefly with some of these routes. The route of Karshi-Bokhara. From Karshi is one of the main caravan routes to Bokhara. The latter is from Karshi to Kasan (kettle) inhabited by half-nomads all of whom are, as a rule, in the mountains in summer, so that the houses are empty. One passes by a great number of saints' tombs and other ordinary tombs. The

population of Kasan consists of Usbegs. It is a large commercial village at the extreme western end of the oasis. To the west begins the steppe, which has, however, a good vegetation here and there and is dotted over with kishlaks of which one, named Maimene, is the seat of an Amläkdar, a lower official beneath the Beg at Karshi. The kishlaks receive their water through ariks from the Kashka Darya where there is water enough in spring, but at about 11 kilometres northwest of Karshi the Kashka Darya is lost in the sand of the Maimanak hills, and then fields and gardens are at an end. From Kasan the route traverses a desert steppe where one meets a few flocks of sheep wandering about among the bushy tufts of Issirik grass. This grass is employed in Bokhara as a remedy against all possible diseases and is collected and sold in the bazars. It is dried and then burnt over a fire of charcoal and the smoke is inhaled by sick people; the same cure is employed for the domestic animals. Here are remains of brick-built wells and ruins of the town of Maimanak; all this suggests former more favourable conditions which cannot be explained but by a change of climate from one more cold and humid to another more dry and warm.

After passing the kishlak of Kiptshak one rides through a quite uninhabited region. The road here is so smooth and good that one can very well drive in a carriage. After the kishlak of Khodsha Mubarek, a small poor village of about 70 houses the steppe is changed into almost total desert, interrupted, however, by a small kishlak, Ashuk Sardabé, and the town of Kakir Sardabé; the names of both indicate their possession of covered cisterns. They were built by Abdullah-Khan who is said to have once made a pilgrimage to Mecca. He got the notion that, somehow or other, the journey had not been acceptable to God, and to remedy this he built cisterns and caravanserais along the caravan roads. The latter Sardabé has a height of 10,5 metres up to the top of the cupola, a diameter of 7,5 metres and can be filled with water up to a height of 4,5 metres. In winter it is empty, and then it is cleansed in order to be ready to be filled when the spring snow thaws. Near the cistern at Karshi is a large mosque, now employed as a serai. The town of Kakir has a small bazar which is only open on market-days.

From Kakir Sardabé to about one and a half kilometre on the other side of Karaul the landscape again is steppe; then the steppe passes into complete desert where the sand flies into the face of

the traveller, and where skeletons of horses and camels indicate the route of the caravans. This desert extends over the high territory as far as north of Sarai Mama Jugurta and further to the salt-lake of Kundsha Kul (by the local natives called Kul-i-mâhi (the fish lake). The lake has carp which are caught in nets and sent to Bokhara. Its depth is estimated at 15 metres. In winter it is frozen, so that the camel caravans can cross it on the ice.

After Kakir Sardabé there are still two halting-places with cisterns, built by Abdullah-Khan, namely Kash Sardabé and Sardabé. At Karaul Bazar (Karaul means guard and a guard has probably been stationed here on the look-out towards the desert and the Turkomans), is a picturesque old caravanserai, which was, no doubt, built to be a castle for Abdullah-Khan or a central serai for his soldiers. Many remains of glazed tiles remind one of its former splendour. Near the serai is a covered cistern and a well from earlier times. Even now a Bokharan guard is stationed in the town from whom one can obtain an escort for the journey through the desert. On the way from Karaul to the railway-station of New-Bokhara one passes the small village of Tshit Arik. The distance from here to Karshi can without difficulty be covered in a three days' ride.

The route of Karshi-Kerki. A very important caravan route leads to the south-west from Karshi through a desolate region to Kerki, the old frontier fortress of Bokhara. The names on the map generally end in kuduk(well) or sardabé (cistern) and indicate with sufficient plainness the character of the route. In the village of Faisabad (these endings of abad in several town names are derived from ab or âb = water, which again shows how important the water is in these regions) there is, for instance, a brick-built cistern with a cupola from the time of Abdullah-Khan, and farther south on the route is another cistern named Sardabé Abdullah-Khan. The halting-places are few and poor and the cisterns in a state of decay. At Sengir-sulak (the original name is probably Sang-i-bulak (stone-spring) because the kishlak has a brick-built cistern that is filled in spring by the melting snow and the rain-water up to a height of some metres) the route is crossed by that from Gusar. In the neighbourhood of Sengir-sulak nomadize Usbegs of the tribes of Naiman and Kungrad.

From Karshi difficult caravan routes lead, mostly through desert, to the town of Burdalik on the Oxus and to Narasim north of Burdalik, and to more southern points. On the route to Burdalik

are numerous cisterns and wells, but most of them are in a state of decay.

Kerki is the old frontier fortress of Bokhara against Afghanistan (or Herat). The fortress is built à cheval across the river, there being on the right bank of the latter a small citadel, formerly mounted with brass cannons. The fortress proper is situated on the left bank and consists of a building erected on a hill and encircled by 3 walls that had a strong armament of cannons. The walls were built of clay and very solid; those farthest out about 2 metres broad and 4 metres high. Round this castle is the town, which is of great importance to the commerce between Karshi, Ankhui, Balkh, Mazar-i-Sherif, Khulm and Maimene. In a way it was made over to Russia in 1887, but nevertheless a Bokharan Beg, who is the Governor of the place, has hitherto resided in the town. The power is, however, with the chief of the Russian garrison who is a sort of counsellor for the Beg. Of late several Russian manufactories have come up in the town, mainly engaged in cotton industry and production of tobacco. The town is one of the main stopping places of the small river steamers, sometimes, owing to the sand bars, unable to go higher up the Amu. The town has three mosques, a bazar, a caravanserai and primitive Russian hotels managed by Armenians. The inhabitants are Usbegs and Turkomans living by agriculture, as the arable land extends from Charjui to the ferry of Hadshi-Salu where canals from the Amu irrigate the region. The latter is mostly inhabited by Ersari Turkomans who are bokharized. Near the town-wall of Kerki is buried the renowned Iman, Imâm Kerkhi, who has written many exegetic works.

Shahar (Shehr, Shahr, Shahar-i-Sebbs (the green town) or Shahrsavs which it is generally called by the natives) has about 20000 inhabitants mainly consisting of Kanigas Usbegs. The renowned old town, whose gardens and fields are connected with those of Kitab is situated about 83 versts south of Samarkand. Within its district of oasis there are no less than 90 mosques and 3 medresses. It was formerly called Kesh and was up to the time of the Samanides principally peopled by Arabs of the tribe of Bekr bin Wail, The town was well fortified and had four gates, namely Darvas Ahenin, D. Abdullah, D. Kassaban (the butcher gate) and Darvas Shahristan (the town-gate). It is richer in fruit than all other oases in Bokhara. Kesh is renowned as the birth place of Timur (A. D. 1335). At this time Shahr and Kitab are said to have been encircled by a common wall. Timur's eldest and favourite son Djehangir is

buried here. To Kesh belonged numerous villages and in the neighbouring mountains the Mokanna took refuge. The town itself now has about 20000 inhabitants, but the whole Beg-district with Kitab and Chiraktshi is said to have about 60000 inhabitants.

When Clavigo visited these regions, it was even then a considerable town, cut through by canals, magnificent and well peopled. There were grapes and melons in great quantities and large cotton-fields. It was encircled by an earthen mound and had a deep moat across which draw bridges led to the gates, and there were many mosques.

At Shahar there was as at Bokhara a so-called Ilti-khanéh or foreigners' house set apart for foreign messengers.

Shahar, which is separated from Bokhara by the desert and from Samarkand by a mountain pass that could easily be defended, has often been the scene of the foundation of an independent realm which sometimes has existed for many years. In the middle of the 18th century it came uner Rahim Beg of Bokhara, but five years after it became independent. From 1811—36 Shahar was governed by Daniar Atalik, an eminent ruler who stoutly withstood for a long time Mir Haidar and his son Emir Nasrullah. The latter conquered Shahar in 1856, but it rebelled again, and Mussaffar Eddin, the father of the present Emir was obliged to agree to Bâbâ Beg at Kitab and Jura Kes at Shahar acknowledging his supremacy only by forwarding presents to him, but they did not allow him to meddle in the administration of affairs. In the battle of Irdshahr the Russians subjugated the Emir, and as Shahar was independent and rebellious against him, they made an end of it by carrying Kitab by assault in 1870, and then Shahar fell without a struggle. The Russians gave back the whole to the Emir as a sign that they would not take his land.

At Shahar is the renowned Ak Serai, white palace, that was built by Timur, and which the architect is said to have been 20 years in erecting. Clavigo visited this palace, and he gives a description of a high and broad gate, decorated with glazed tiles in blue and gold, leading into a garden, of magnificent galleries and of halls adorned with gold, azure, silver and ivory. Here Timur rested himself after his campaigns. Of the porch are still left two solid pillars built of brick. They have a height of about 42 metres and are remarkable for a pure Arabic style, glazed tiles in blue and white with inlaid arabesques and Persian and Arabic inscriptions.

In Ak Serai which is of enormous dimensions the Emir resides

when staying in the town. Within it is covered with majolica of extraordinary beauty which is enhanced by the decorative Persian and Arabic inscriptions. The interior, consisting of a square castle, the dwelling of the Emir encircled by lower houses, is gained through three enormous porches.

Shahar's principal mosques and medresses are Khanekah-i-Kalân with a low cupola on a wide base, Medresse-Mabain, Medresse-i-Kofa, that has two small inconsiderable cupolae, and the mosque of Meshit-i-Nau (new mosque) that was built in 1890; the latter is surrounded by a portico with stucco and painting. Just outside the town is a saint's tomb (mazar) within two complexes of buildings, the smaller Hazret-i-Sheik, a square building with cupola and bright majolica resembling Gur Emir at Samarkand, and a larger one, furnished with veranda and two rows of columns. Before the centre of the mazar is the mosque of Hazret-i-Sheik-Shamseddin-Kobarah, built by Mirza Ulug Beg; from the middle of its front rises a fine porch decorated with majolica.

One of the curiosities of Shahar is Malek-i-Ashdär, a saint's tomb with numerous columns and painted stucco and a lonely minaret amidst numerous sacred tombs; beside this is a mosque of the same name. Close by is also Saudagar Serai (merchants' house). Here is also the saint's tomb of Hazret Imâm, partly ruinous, but formerly quite covered with majolica. Close by is a new mosque with basin and minaret. The town is renowned for its extensive rice-fields for which the low region in the neighbourhood is excellently adapted.

At sunset a band of musicians plays on drums, flutes and clarinets from the music-house (Negareh Khanéh).

At Shahar a great many Jews live from olden times.

Kitab, the sister town of Shahar is, in contrast to the latter, situated on high ground. It has a Bokharan garrison, and the Emir often resides here with his harem and his numerous batshas. In the town is a strongly fortified old citadel or castle, situated on an artificial hill and encircled by high strong clay-walls. The entrance porch is flanked by two towers and is rather imposing. In this castle lives the Beg of the district and the Emir when the latter visits the place. For the use of the Emir there is a special court-mosque. Kitab's orchards and rose gardens are renowned and are said to surpass even those of Shahar in beauty. At Kitab grow also the best grapes in Bokhara. The town has a large bazar and market-place and the number of inhabitants is about 15000.

Charjui[1]) now consists of two cities, one completely Russian on the river and the old Bokharan town situated at a distance of about 12 versts from the bank of the Amu Darya. The latter was formerly on the bank of the Oxus, but, as recorded, the river moves towards the east. Here Timur built a bridge across the Oxus, but again broke it off for fear that the prisoners from Maver-al-nahr should run away across it, and later one was obliged to use the ferry. The Russian town is spread over the swampy bank and has some bad Armenian hotels defying all civilization. It is the seat of a Russian District Governor and here are the station and the workshops of the Amu flotilla. Owing to the low bank the territory is often inundated even up into the houses, and the inhabitants suffer from rheumatism. Now the town is also of great importance to the new railway-bridge of iron across the Oxus that was built in 1899. It is the emporium of commerce in the region from Khiva to Afghanistan (Afghan Turkestan). A great trade is carried on with grapes, skins, carpets, sheep skins, wool, cotton. The aggregate number of inhabitants is estimated at 7600. The station itself is called Amu Darya, and on the opposite side is Farab.

In the middle of the 19th century old Charjui or Chiharjui was, properly speaking, nothing but a fort against the Turkomans, but Mussafar Eddin, the father of the present Emir, resumed the canalisation, and to him it is indebted for its rising in the centre of very fertile oases. The tolerable road with the rickety bridges across the canals, on which we drove for our audience of the Emir, is so dusty in summer that one is quite covered with loess which bears evidence to the fact that the region requires nothing but water to be cultivated with success.

The town has now extensive fields all round, and the Beg, one of the most distinguished in Bokhara, with the title of Paravanatshi, has a large harem, numerous batshas, a hawking establishment etc. In the town is a Bokharan garrison commanded by a colonel.

At some distance one becomes aware of the crenelated walls of the city with gates and barbacans. The Ark or castle is situated on a hill; it is encircled by a wall with loopholes, towers etc., and through a strong iron-mounted gate one enters the citadel where the Beg resides. The entrance of the citadel ascends a ramp as the entrance of the Ark at Bokhara, and it is flanked in the same way as the latter by two round towers with a loggia above the pointed gate. Inside the walls are beautiful gardens with roses and other flowers,

[1]) Means market-place.

grapes and other fruit. There are also inside the walls a confusion of flat-roofed buildings, several small palaces with aivâns and verandas with lattice railings etc. The road which leads to the interior of the palace itself is very steep and in some part covered by vaults, and the inner yard of the palace is paved. From the yard one enters a spacious vestibule and then a smaller room with paper-hangings. Here the Emir received us during our audience in the spring 1898, and on this occasion the gilded chairs had been brought hither from Kerminéh where the Emir generally resided during my sojourns in his realm.

Under the Ark are some small subterranean prisons which are truly terrible and resemble mole-holes; here the furniture was nothing but strong beams with neck rings and chains nailed on. The Ark is also the barracks of the garrison.

From the gate of the citadel there is a splendid view over the city with its many gardens and the broad stream of the Oxus. The city has a beautiful small bazar. Formerly it was renowned for its slave-markets where the Turkomans were the sellers. This trade has now ceased officially, but the sale of female slaves still thrives in secret.

The inhabitants here and further on as far as Denau or Deh-i-nau or Dehnau are Usbegs and Karakalpaks. Old Charjui has about 30000 inhabitants.

Denau near Charjui has been described above.

Kerminéh has about 12000 inhabitants and is a considerable town carrying on a lively trade; thus many Russian articles are sold in its bazars. Two days a week only are bazar days, then all shops in the covered rhastas are open, whereas on the other days those shops only are open where the most necessary victuals and household articles are sold, as in most provincial towns in Bokhara. The style of the mosques and medresses of the town is the usual one mentioned above, and there is nothing particularly remarkable in them. On the outskirt of the town is a large castle encircled by high walls and holding within a great number of palaces and gardens of great extent. The town is situated in the flat plain surrounded by extensive gardens and fields; it is constantly seen at a distance when driving on the tolerable carriage road from the station of Kerminéh to the oasis. From Bokhara-i-Sherif a good carriage road also leads to Kerminéh. The oasis is watered by lateral canals cut out from the Serafshan; cotton is largely cultivated and there is a rather considerable industry.

While I stayed in the realm of the Emir, his residence was, so to speak, always at Kermineh where he lived in the castle which with its palaces and gardens reminds one very much of Shehrbedén, only the size is less and the fitting-up more primitive. I visited him in the winter 1896—97; then he had set up a sort of Circassian guard, in imitation of the Russian Emperor. It was employed as a body-guard and was steadily stationed with drawn sabres at the entrance of his habitation as long as the audience lasted.

Chiraktshi is a small town with rather good bazars, but nothing else of special interest. All round are many kibitkes (kara-oi) bearing evidence to the fact that the inhabitants are to some extent nomads. Several buildings are covered with straw on the flat roofs. The population from Karshi to Chiraktshi are half-nomads.

The name of Chiraktshi is no doubt connected with chirâk (candle or lamp), perhaps suggesting that the Fire-worshippers, the Avesta people, have had a specially firm resort here, or that they have perhaps held out here longer than elsewhere in Bokhara.

Hissar has about 15000 inhabitants and is the seat of a Beg. At Hissar a knife and sword industry still thrives. The damaskeened blades with their inlay of threads of silver and gold are renowned from of old. It is inhabited by Usbegs. See for the rest what has been said of it above.

Kelif is especially famous for its ferry across the Oxus. Here the river narrows to about 300 metres and here Nadir Shah built a bridge across the river. The town has only a few thousand inhabitants.

Shirabad or Shehr-abad (the Lion Town) is said to have about 15000 inhabitants. It is encircled by walls from which the phalanxes of Alexander the Great are said to have been seen. The name of the town was then Shehr-i-Chyber and it was inhabited by fire-worshipping Tadjiks.

Husar or Gusar has about 20000 inhabitants. From the town two roads to Afghan Turkestan pass Kelif; the one is 240, the other 160 kilometres long. The shorter one does not yield drinking water for more than about 72 kilometres, has but a scarce quantity of fuel and is more difficult to pass than the longer one.

Karatagh (the Black Mountain) has about 15000 inhabitants. In 1909 it was nearly destroyed by earth-quake with subsequent land slip, but is said to be again rising.

Karakul has about 5000 inhabitants. It furnishes a great part

of Bokhara with salt that is obtained near the oasis. The town itself is small and has a citadel where the Beg resides. Formerly the oasis was large and flourishing, but the desert forces its way into it on all sides, as the supply of water decreases very much owing to the water being consumed at New and Old Bokhara, consequently many of the inhabitants leave the place, and agriculture is in a state of decay. The oasis is famous for its large herds of the small black sheep with the curly skin (Karakul sheep). The flesh of the sheep is not so good as that of the other sheep races, but to make up for it the skin is exceedingly valuable.

Zia-eddin has about 8000 inhabitants.

17.

THE EMIR

GOVERNMENT AND OFFICIALS

THE Emir of Bokhara is the vassal of the Emperor of Russia, but he governs the inner affairs of his country despotically as in days of yore, at any rate formally; it is, however, unavoidable that Russia now and then should meddle in the inner administration and this has been to the benefit of Bokhara people. Thus slavery was immediately abolished on the arrival of the Russians and many cruel punishments which had hitherto been in practice were forbidden, for instance the flinging of criminals from the Tower of the Dead and throwing criminals into pits full of bed-bugs. But it was, of course, difficult at once to break such a thoroughly Oriental Government of the use of the accustomed barbarian punishments, and officials in Bokhara with whom I was on intimate terms told me that much of this was still prevalent here and there, for instance the custom of tying criminals to a pole and preventing them from sleeping by all possible means, until they die, or of sticking bristles or rusty wires into their sexual organs to make them confess, and many other horrors. Such things are, of course, complained of by the Russian political agent at New Bokhara who negotiates with the Emir's Government on the part of Russia.

The Emir who formerly resided in the Ark at Bokhara-i-Sherif has not lived there for many years, and he is absolutely forbidden to make his appearance in the capital. As a rule, he lives at Kerminéh, and in summer he moves about to the larger provincial towns, especially to Charjui, Karshi, Hissar and Kitab. The last time I was at Bokhara, in the autumn 1899, the Russians had a palace built in European-Oriental style at New Bokhara which was intended as the dwelling-place of the Emir. The latter was said to be unwilling to take up his abode there, because the new sur-

roundings did not suit his old habits and because he would become the neighbour of the Russian political agent who could overlook all his doings from his windows, which he, indeed, was expected to do. The capital of Bokhara was, no doubt, closed against the Emir to break the Bokharan nation of the thought of having a native regent, and from here he could give the Russians more trouble than he is now capable of doing. I was told that as soon as the present Emir was dead, or perhaps before, a Russian Governor-General would march into the palace of New Bokhara, and then the Emirs would be things of the past. Still, however, the representative of the Emir, the wise Divambegi Djân Mirza, later appointed Kushbegi (the Begs' master), resides in the Ark at Bokhara, and as long as he does not leave the Ark, the Emir is still despotic ruler. Whether the Emir and Djân Mirza are a match for the Russians, or whether the latter wish to retain the native administration a little longer, as it is much cheaper than a Russian administration would be, is only known to the Emir, Djân Mirza and the Russian diplomacy, but Djân Mirza is a very prudent man and an able diplomatist. In spite of his intelligence it is now and then very difficult for him to balance between the Russians and the Emir. All questions of details the Russians leave to Djân Mirza who is, no doubt, the actual ruler, but as the Emir considers himself the ruler and issues orders, it often happens that his and the Emir's orders to officials are quite opposite; many messengers in many coloured caftans and armed with scimitars are constantly on the move from the Emir to the Ark, their way is crossed by Cossacks armed with rifles from the Agency, and whe-

Saît Abdul Akhad[1]), Emir of Bokhara.

[1]) Died at the beginning of 1911.

ther an order is issued to the provinces in Bokharan or Russian spirit, depends upon which of the two chess-players is the more able manoeuvrer.

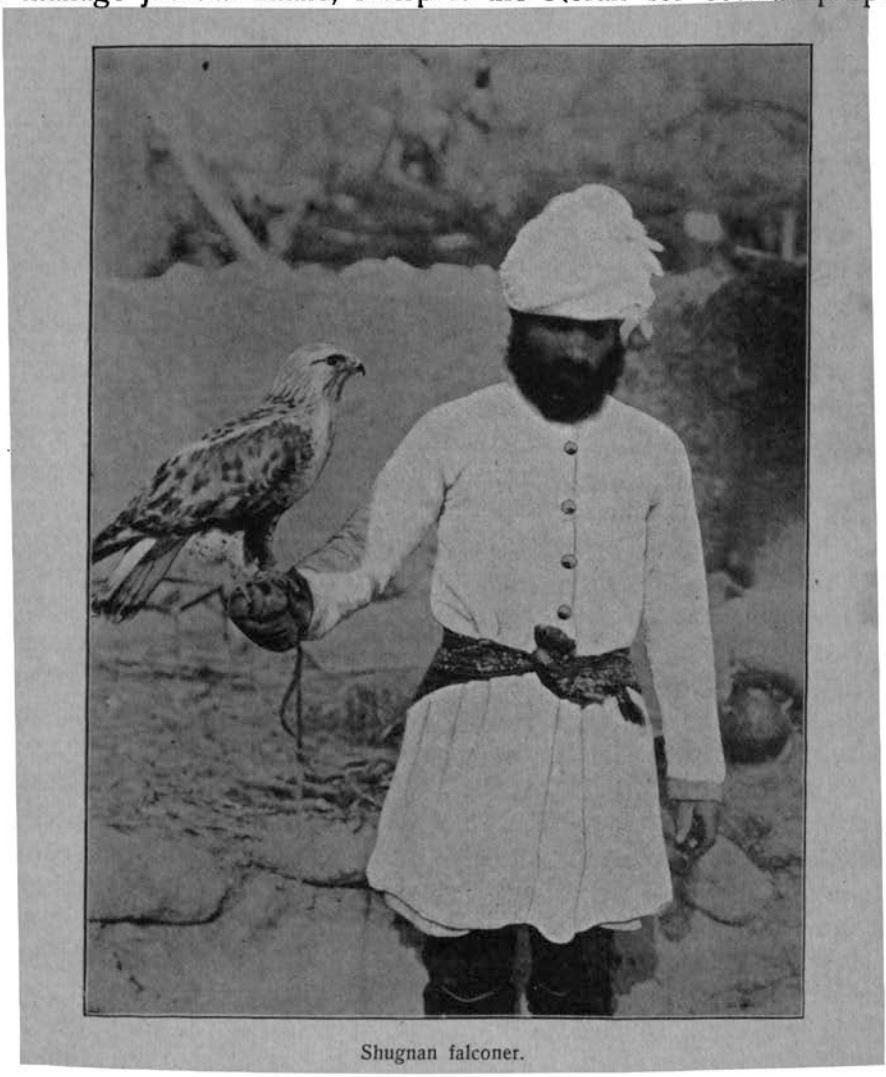
The Emir governs the extensive country by the aid of subject kings or governors, the so-called Begs; it is divided into many districts some of which are up to the standard of European realms, as far as size is concerned.

Now and then the frontiers of the districts of the Begs change when some land is taken from one Beg and given to another, but on the whole the country is divided among the Begs at Kalai Vamar, Kalai Khumb, Garm, Hissar, Kitab, Karshi, Kermineh, Charjui and Bokhara. From former times these subject kings bear the title of Beg.

The provinces were either given to the sons of the changing Emirs, to their friends and to brave warriors, or they descended by inheritance to members of the original races of princes who had once acquired small realms here and there. That the position of a Beg has been considered hereditary appears from the observations I heard everywhere from the various Begs, who always intimated that their eldest son would inherit the province after them. There being no nobility or privileged cast in Bokhara, everybody can rise both to Beg and to other high offices, and several of the highest Bokharan officials are sons of Persian slaves or have even been slaves themselves. Highest of rank in Bokhara are the ecclesiastics, who include amongst them both the actual ecclesiastics and those merchants and greater artisans who have frequented the medresses, all others are Fukaras, i. e. a sort of proletariat or persons who are not taken into account. Even if the office of a Beg is not hereditary, the title is always so, and a Beg's legitimate sons i. e. his sons by the 4 legitimate wives whom every Mussulman is allowed to have, bear the title of Beg beside their name; but if they descend to lower positions such as caravan guides or other Fukaras, the word Beg assumes the vulgar form Bey in contradistinction to the title of those in office which is pronounced Beg or better Bek.

The Begs administrate their provinces by the aid of a sort of subject Begs with various titles who manage a certain part of the province or a larger town with its neighbourhood, under these Aksakals are appointed in towns and villages and among the nomadic tribes; the latter have their subject authorities, such as Mingbashi, chief of 1000 men, Jüsbashi, of 100 men, Ellikbashi, of 50

men and even Onbashi, of 10 men. Each smaller society has its chief who bears the title of Naïb or Amin, if the society is very small. Kasis are distributed over the various rural and town-districts to manage judicial affairs, interpret the Koran for secular purposes



Shugnan falconer.

and propose the punishments to which criminals are sentenced by the administrative authorities.

The Emir governs the country despotically, and the same is the case with the Begs within their domains. The principal object of the Emir's Government is regular and abundant payment of the

taxes and this is also the case with the Begs and right down to the Aksakals. The Beg administrates his province, as if it were his private property and punishes as it suits him and his Kasis, but capital punishment and very severe punishments can only be executed by order of the Emir.

The Begs imitate the court of the Emir, having as great a ceremonial as their means allow. To each Beg's district belongs an Ark or palace which is also a fortress surrounded by high ramparts or loopholed walls, towers with machicolations and dry or wet moats, such as we have seen at Kalai Vamar, Kalai Khumb, Garm etc.; even at our time these precautionary measures may be necessary, even if not so necessary as formerly. They have their harems like the Emir, but not so great as that of the latter which is said to consist of about 130 women, their batshas, falconers, fiddlers etc. As the Emir has his own body-guard, the so-called Sarvas, now transformed to a sort of Circassian guard in imitation of that of the Russian Emperor, the Begs have their Sarvas who look after all possible matters in the castle where they are seen in ragged dresses with their bare legs in their slippers, but on solemn occasions they are arrayed in smart caftans and provided with scimitars and matchlocks.

The Emir does not wear any special uniform, excepting that he, being Russian General, now wears epaulets on his caftan, and the Begs are not dressed in any special way either, but each of them knows how richly he may dress in accordance with ancient usage and with the rank which has been bestowed upon him. Formerly the Emir like the Shah of Persia used to place a tuft of feathers with diamants or a clasp upon his turban, but now, being the ruler of the faithful "Al Mumjumin", he only wears the white spiritual turban.

The various Begs and secular officials always receive special titles which indicate how high in rank they are; all of them are court titles derived from a time when the Emir's court had a numerous staff of all possible functionaries, several of whom are now abolished. They are consequently mere titles, as is also customary in Europe.

The highest title in Bokhara is Ataluk, then follow Kushbegi, Divambegi, Datkha, Jnâk, Paravanatshi, Bi, Mirakhur, Mirzabashi, Tokhsabashi, Karaulbegi etc. Paravanatshi or the Peacock man (because he wore peacock's feathers) was master of ceremonies, Mirakhur master of the horse, Karaulbegi chief of the guard etc., but

these titles are now also conveyed upon others who do not exercise the actual office. The rank of the Begs in the provinces varies between that of Mirakhur being the lowest and that of Datkha, the highest. Divambegi is, as a rule, only conferred upon the Vizier and the nearest and highest courtiers of the Emir, Ataluk has not been in use for many years, and the Emir is very sparing of the title of Kushbegi. The titles of Mirzabashi (chief of the secretaries or head secretary), Karaulbegi and Tokhsabashi (properly proprietor of a standard) are conferred upon subject Begs or courtiers of lower rank. Besides the court functions named here which still exist, but all of which are rarely filled, there are a great many court functions still partly occupied. The Emir has his Mehemândar, receiver of guests, Sherbet-Birdar, cup bearer, Aftabashi mug-bearer, Munshibashi, Secretary of State; the former office of Shekhawl, minister of foreign affairs, has been abolished, because Bokhara can only establish a connection with other realms through Russia; there are further special titles for those who look after the Emir's watch, his boots, books, for those who bring food, water etc. to him. The man who serves the food for foreign guests is called Darstarkhandji.

There is one official, the so-called "Makhram" who plays a great part at the courts of the Emir and the Begs. He is a sort of chamberlain, a confidential factotum to whom many commissions are confided, for instance, the important one of being his master's pander. The Emir has several Makhrams, but the Begs generally content themselves with one. A Makhram is the type of an intelligent, thorough and cunning rogue.

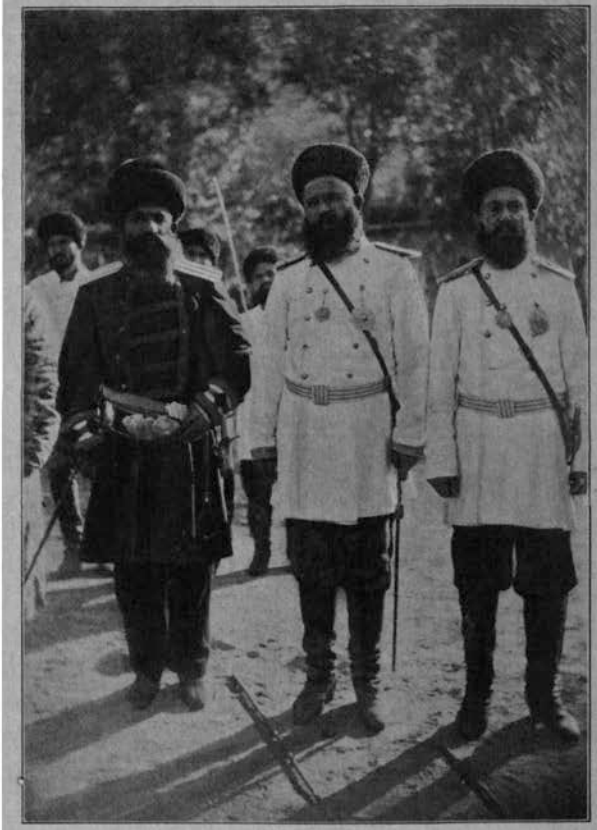
The Emir is surrounded by a considerable ceremonial; the foreigner who gets an audience of him, is fetched in the carriages of the Emir accompanied by a great suite of mounted courtiers, at the entrance of the castle the Circassian body-guard parades; then follows a "darstarkhan" with a great selection of Bokharan dishes during the eating of which one is entertained and waited upon by a great assembly of the courtiers of the Emir, and then one is led by masters of ceremonies with white staffs to the audience proper (salam or selam). That the foreigner may be impressed by the vastness of the surroundings, he is always shown through as many rooms as possible, and from my various audiences I brought home the impression that we had been taken round the palace several times through the same rooms, so that I should be overwhelmed. The courtiers who have attended at the meal follow in procession, but by degrees as we approach the Holy of Holies they are dropped,

and at last a master of ceremonies takes us through the door to His Highness, who receives us in the presence of some of his sons or most trusted courtiers. The room of audience was as with well-to-do Bokhara people fitted up with magnificent painted and gilt stucco on the walls and with mirrors, and otherwise only decorated with fine woven carpets on which silk quilts and bolsters were placed; besides there were some fine water-pipes and tea-jugs and a row of gilt armchairs for the Europeans. Apart from the special commission which had to be executed, the conversation turned upon indifferent matters, but although the Emir is now accustomed to give audience in the European manner, he is still fond of hearing even from the lips of Europeans, as from his own subjects, that a long and happy life is wished him, that his riches may increase, and that Allah's blessing may fall to his lot.

The natives call the Emir by several titles, such as "Hazret" which is otherwise only used about prophets, the same title is also often used towards the Begs, also Padishah, Badevlet (the Happy) and Taxir (lord); according to the natives the latter ought to be pronounced 21 times during an audience. The natives always fall on their knees before the Emir and the Begs murmuring "Âblâh Akbar" some times, and then Salam Padishah and pronounce the wish that the Emir may live in 120 years.

The day of the Emir is, of course, first and foremost divided according to the precepts of religion; much time is occupied by the daily nâmas and divine service which is held in the court-mosque of the Emir and performed by the court-chaplain, Khatib. When the Emir enters the mosque, the chaplain carries the Koran before him. Every day the Emir passes some hours with his harem-women who are guarded by old men, especially the 4 favourite wives or legitimate wives who have born him his legimate sons, the princes, who bear the title of Turra; the first-born son, the crown-prince, has the title of Turra-djân (properly the Soul-prince, but soul and heart being one in Bokhara, better the beloved or favourite son). At certain hours of the day the Emir and his most trusted men meet to discuss government affairs, especially on Fridays when divine service is over. Then the weekly reports have to arrive from the Begs. The Emir has also much to do in his capacity of the highest judge in the country, and as every accused person who is not content with the sentence of the Kasis has a right to bring his cause before the Emir, if he succeeds in penetrating through the labyrinth of officials who surround the latter,

this gives him also much to look after. When his administrative and judicial duties are discharged, the Emir always uses to take a meal with his dignitaries, and often in that manner that each of them receives his pots and cauldrons, and the Emir and his dignitaries then each prepare their dish of pillau in order to decide which of them is able to prepare the Bokharan favourite dish best; it goes without saying that the Emir's pillau is always best. Then the courtiers have to tell stories, anecdotes and legends, or reciters are called in; they take one cup of tea after the other and go on with this sort of intertainment far into the night, until at last batshas divert them with their dance and music.



Bokharan officers. (A colonel and two captains).

The Emir is very cautious in regard to eating and drinking; several of his courtiers must always first taste all that is brought to him. One of the Emir's outdoor pleasures is hawking, and for this purpose he has a special court-yard where hundreds of small and large hawks are bred. This sport is, by the way, very common in Bokhara, especially in the mountain provinces where riders often are seen riding with the hooded hawk on their gloved hand.

The departure of the Emir from one province to another always takes place with great ceremonies. A great baggage of provisions, costly silk tents, carriages with harem-women, batshas, falconers, escorts of Sarvas and soldiers (askar) accompany him. A Mirshab with his axe of ceremony rides in front, then follow some Sarvas,

riders with banners and kettle-drums, then the Emir and his highest dignitaries in dresses in all the colours of the rainbow and at last a large escort and the baggage. On each entry into a town or with a nomadic tribe, people throng in from all sides in order to bow respectfully to the Emir who treats all present with pillau, meat, bread and fruit. These banquets look very picturesque and old-fashioned, and ought to be fixed to canvas by a painter before they vanish.

The Emir has organized his army in European manner, after the Russians have become his superiors. It is said to consist of 20000 man, but of these 8000 exist, no doubt, only on paper. It consists of foot, horse and artillery and is armed with old Russian weapons. It is commanded by native officers who have been trained by the Russians. All the words of command are Russian, and the uniforms have a Russian cut: red leather trousers, long boots, dark coat with shoulder-flaps and fur-cap. All the soldiers are enlisted and, as a rule, they only serve certain days a week. When the duty is over, they take off their uniform and clad in the paternal dress they mind their civil trade. The greater part of the army is garrisoned in the town of Bokhara, in the other towns and on the frontiers towards Afghanistan there are various detachments. The Emir does not take any great interest in his army which is shown by the answer given by him to several Russian officers who have sought appointment as drill-instructors. He answered namely: "I need no army; Russia is responsible for the integrity of Bokhara, and the drill-instructors will only cost me more money"

LIST OF LITERATURE

1. Rejse i Mellemasien. 1863. Herman Vámbéry, oversat af L. Moltke. Kjøbenhavn 1865.
2. Geschichte Bocharas. Herman Vámbéry. Stuttgart 1872.
3. Eranische Alterthumskunde. Fr. Spiegel. Bd. I. II. III.
4. Ostiranische Kultur im Alterthum. Wilh. Geiger. Erlangen 1882.
5. Zarathustra. Dr. Edv. Lehmann. Kjøbenhavn 1899.
6. Russland in Mittelasien. Krahmer. Leipzig 1898.
7. Through the unknown Pamirs (Vakhan and Garan). O. Olufsen. London 1904.
8. Vocabulary of the dialects in Bokhara. O. Olufsen og V. Grönbech. Copenhagen 1905.
9. Meteorological Observations from Pamir. O. Olufsen. Copenhagen 1903.
10. Old and new architecture in Bokhara, Khiva and Turkestan. O. Olufsen. Copenhagen 1903.
11. Gennem Pamir. O. Olufsen. Kjøbenhavn 1906.
12. 2 Vorträge über meine Reisen in Pamir 1896—97 u. 1898—99. O. Olufsen. Zeitschr. d. Gesell. f. Erdk. Berlin 1897 u. 1900.
13. Bokhara, Khiva og Turkestan, O. Olufsen. (Folkeuniversitetsforelæsninger). Kjøbenhavn 1906.
14. Geografisk Tidskrift. Treatises on Mid and Central Asia. Kjøbenhavn. Bd. 14, 15, 16, 17, 18, 19, 20. O. Olufsen.
15. Die Pamir-Gebiete. Wilh. Geiger. Wien 1887.
16. Das Gesetz der Wüstenbildung. J. Walther. Berlin 1900.
17. Afghanistan. Angus Hamilton. London 1906.
18. Russisch Central-Asien etc. H. Lansdell. Leipzig 1885.
19. Die Stadt Chiva 1873. L. Kostenko, deutsch v. Blaramberg. P. Mitt. 1874.
20. Die Eroberungen der Russen in Centralasien. Krahmer. Berlin 1873.
21. Central-Asien. A. Humboldt. Berlin 1844.
22. Die Neunzahl bei den Ostariern. A. Kaegi. 1890.
23. Reise in Kokan etc. A. Fedschenko. P. Mitt. 1872.
24. Reisen in Turkestan. A. Fedschenko. P. Mitt. 1874.
25. Reise von Orenburg nach Buchara. E. Eversmann. Berlin 1823.
26. Narrative of the Embassy to the Court of Timour at Samarcand. Gonzalez de Clavigo. R. 1403—06. transl. by Markham. London 1859.
27. Moderne Keramik von Central-Asien. F. R. Martin. Stockholm 1897.
28. Morgenländische Stoffe. F. R. Martin. Stockholm 1897.
29. Turkistan. E. Schuyler. London 1876.

30. La vie des steppes Khirghizes. B. Zaleski. Paris 1865.
31. Marco Polo. (German translation).
32. Iran und Turan. H. Brunnhofer. Leipzig 1889.
33. Die Urgeschichte der Arier in Vorder- und Centralasien. H. Brunnhofer. Leipzig 1893.
34. Journey to the Source of Oxus. Wood. London 1872.
35. Gornaja Buchara. Lipsky. St. Petersborg 1902 (russ.).
36. History of Bukhara. Narschachi. Tashkent 1897 (russ.).
37. Genghizcan. Petit de la Croix. London 1722.
38. Nature of Khiva and Kizil Kum. N. M. Bogdanoff. Tashkent 1882 (russ.).
39. Bokhara. Khanikoff. London 1845, transl. from Russian by C. A. de Bode.
40. Centralasien. F. v. Hellwald. Leipzig 1875.
41. Nachrichten über Chiva, Bokhara, Chokand etc. Gr. v. Helmersen. St. Petersburg 1839.
42. Geschichte d. Mahomedanismus u. seiner Sekten. Taylor. Leipzig 1837.
43. Die russisch-asiatischen Grenzlande. Wenjukow. Leipzig 1874, deutsch v. Krahmer.
44. Die Russen in Turkestan. W. Geiger. Breslau.
45. Genom Khorassan och Turkestan. Sven Hedin. Stockholm 1893.
46. Reise d. Russ. Gesandtschaft in Afghanistan u. Buchara. Jaworsky. Jena 1885.
47. Centralasien u. d. english-russ. Grenzfrage. H. Vámbéry. Leipzig 1873.
48. Der russ. Feldzug nach Chiwa. H. Stumm. Berlin 1875.
49. Reise nach Buchara und Samarkand. A. Lehmann, 1841—42, bearbeit. v. Helmersen. St. Petersburg 1852.
50. The roof of the world. T. E. Gordon. Edinburgh 1876.
51. Skizzen aus Mittelasien, nebst Erg. Bd. H. Vámbéry. Leipzig 1868.
52. Travels into Bokhara etc. A. Burnes. London 1834.
53. Description des hordes et des steppes des Kirghiz-Kazaks ou Khirghiz-Kaïssaks. A. Levchine par E. Charrière. Paris 1840.
54. Narrative of a mission to Bokhara 1843—45. Vol. I, II. Joseph Wolff. London 1845.
55. Kaspische Studien. K. E. v. Baer. Bul. d. l'Acad. Imp. d. Science St. Petersbourg.
56. Die Russen in Centralasien. F. v. Hellwald. Wien 1869.
57. Die Russen in Centralasien. F. v. Hellwald. Augsburg 1878.
58. Central-Asia. J. Hutton. London 1875.
59. Ein Blick auf die Resultate der Hissarschen Expd. Russ. Revue Bd. 7. 1875. H. 8. St. Petersburg 1875. P. Lerch.
60. Durch Centralasien. Henri Moser. Leipzig 1888.
61. Irrigation, natural and artificial in Samarkand and Bokhara. Scott. geogr. Mag. Vol. 4. 1888. Edinburgh 1888. V. Dingelstedt.
62. L'irrigation en Asie Centrale. Henri Moser. Paris 1894.
63. Proceedings R. geogr. Soc. London 1873.
64. Die Subtropenzone. Woeikof (Zeitschr. f. Met. Bd. VII Nr. 11. 1872).
65. Karategin. Ausland. 1878.
66. Karategin u. Hissar. Globus. 1878.
67. Zur Kenntniss der Bevölkerung Bucharas. Globus. 1894.
68. Centralasien. Karategin etc. Rev. G. 36. (1895). Felix da Rocca.

69. Karategin and Darwaz. Proceed. R. geogr. Soc. London 1879 and 1886.
70. Badakshan and Wakhan. Proceed. R. geogr. Soc. London 1873.
71. Monography on the Oxus. Journ. R. geogr. Soc. London 1873.
72. Turkestan. Kostenko.
73. Essay on the Geogr. of the upper Waters of the Oxus. Yule.
74. Das Jaghnau Thal. Capus. Pet. Mitt. 29. 1883.
75. Historical survey of Turkestan etc. A. J. Makschejew. St. Petersborg 1896 (russ.).
76. Religiöse, sociale und häusliche Verhältnisse des Orients unter dem Einflusse des Islam. Dr. Hermann Zschokke. Wien 1876.
77. Chinese Central Asia. Vol. I, II. H. Lansdell. London 1893.
78. Der Islam im neunzehnten Jahrhundert. H. Vámbéry. Leipzig 1875.
79. Das Türkenvolk. H. Vámbéry. Leipzig 1885.
80. Zur Meteorologie von West-Turkestan. H. v. Fischer. Wien 1908.
81. La Russie extra-européenne et polaire. M. P. de Semenow. Paris 1900.
82. Trancaspien und. Nord-Chorassan. (Pet. Mit. Erghft. 1899). G. Radde.
83. La direction et la vitesse du vent sur la surface de l'Empire Russe (Mem. Ac. Sc. St. Petersbourg 8. Ser. II. 1895). I. A. Kersnowski.
84. Turkestan, die Wiege der indoevropäischen Völker. F. v. Schwartz. Freiburg.

INDEX

A.

Abdul Asis Khan, medresse of, 540.
Abdul Hasan 506.
Abdullah-Khan 507, 509.
Abdul Subhan 12.
Âb-i-Duburg, tributary of Gorif, 44.
Âb-i-Garm, tributary of Surkhab-Vakhs, 41, 42, 45—46.
Âb-i-Kabud or Ab-i-kabud, tributary of Vakhs, 43, 129, 132.
Âb-i-Maderaun river 29, 91.
Âb-i-Maderaun valley 92.
Âb-i-Mazar, upper course of Yashgulam, 32.
Âb-i-Pandsh, tributary of Yashgulam, 29, 32.
Âb-i-Shirin, tributary of Pandsh, 35.
Âb-i-Vandsh river 102.
Âb-i-Vandsh valley 100.
Âb-i-Viskarv, tributary of Pandsh, 35.
Âb-i-yasman valley 129.
Âb-i-Zanku or Ab-i-sanku, tributary of Khingau, 35, 43, 129, 135.
Abuse 451.
Acacias 144.
Adak, town of, 198.
Adam 376.
Adane 380.
Afghans 37, 301.
Afrasiab 506.
Agba-kul pass 53.
Aglam or Aglem 393.
Agricultural implements 494.
Agriculture 178, 486—498.
Agriculture, modern, 489.
Ailâk or Yailâk, summer camp, 4, 19, 77, 88.
Airyana vaeja 142.
Aivân 376.
Ak-bai-sitargy, pass of, 35.
Ak-dagan, cleft of, 68.
Ak-darya river 145.
Akdasht plain 28.
Ak-meshed, village of, 54.
Ak-rovat, pass of, 68.
Ak Serai, palace of, 568.
Aksu river 13.
Aksu, upper course of Vartang, 28.
Ak-tau 48.
Alai range 3, 41.
Alai steppe 138.
Alam or Allam 201, 401.
Alaman, Turkomans 152.
Aldshad 389.
Alexander the Great 6, 9, 148, 507.
Alitshur range 21.
Almasdeh 367.
Almonds 82, 270, 500.
Altyn Mazar 136.
Amilak 489.
Ammodendron 169.
Amu Darya 487.
  Bridge across, 148.
  Bridge across canal from, 191.
  Dunes near, 156.
  From the Vakhs to the Kelif-darya 62—64.
  From Kelif to its leaving Bokharan territory 146—159.
  Islands in, 156, 177.
  Voyage on, 173—246.
Amujy or Amulje, town of, 146.
Amusements and Games 433—440.
Animals 272—280.
  Antelopes 150, 279.
  Ateuchus 169.
  Badger 276.
  Bats 279.
  Bears 122, 274.
  Bed-bugs 337.
  Bengal tiger 232.
  Butterflies 279.
  Camels 353—357.
  Cockroaches 260.
  Cows 111.
  Crows 120, 258, 277.
  Donkey 361—362.
  Ducks 278.
  Dromedaries 353—357.

Eagles 17, 277.
Falcons 105, 120, 131, 277.
Foxes 276.
Frogs 279.
Geese 278.
Grasshoppers 214, 220, 261.
Horse 357—361.
Insects 36.
Jackals 223, 276.
Jerfalcons 126.
Kiyik 122, 274.
Lizards 36, 280.
Magpie 258, 277.
Marmots 120, 276.
Martens 277.
Mole-crickets 260.
Mosquitoes 36, 178, 240.
Mountain panther 22, 275.
Nightingale 278.
Otter 277.
Ovis Karelini 273.
Ovis Poli 122, 272.
Partridge 278.
Pheasants 36, 150.
Pigeons 120.
Poultry 111.
Red shanks 278.
Roller 258, 277.
Royal tiger 274.
Scorpions 24, 36, 131, 260.
Serpents 279.
Silkworm 499.
Snakes 36.
Snipe 278.
Spiders 36, 178, 280.
Steppe wolf 275.
Stilt plovers 246, 278.
Storks 278.
Tarantulae 260.
Tiger 36.
Tortoises 36, 280.
Weasels 277.
Wild boar 36, 150, 277.
Wild cats 277.
Yak-ox 363.
Animals, fights between, 435.
Ansop, kishlak of, 49.
Ansop pass 46, 49.
Antelopes 150, 279.
Apothecaries 441.
Apothecaries, native, 449.
Apples 22, 82, 129, 200, 205, 269, 499.
Apricots 82, 108, 129, 193, 200, 269, 308.
Arabs 11, 185, 296.
Arab colony 145.
Arab conquerors 142.
Aral-paigambar, island of, 63.
Arbakul pass 49.
Arbob 492.
Ardvisura, see Amu Darya, 7.
Arik-Aksakal 490, 492.
Ark 337, 513, 538.
Armenians 301.
Arnavadi, pass of, 35.
Aron ben Ghasof 311.
Arsenal of different objects 476.
Arslan Khan 506.
Arslan-tau mountains 3.
Articles of food 452—466.
Aryans 365.
Ash 269.
Ashtarkhanides 509.
Asp 269.
At-Tamasha 434.
Aulia Pasha Ismail-i-Sâmâné 412.
Autumn 263—265.
Avesta 7, 142, 362.
Avesta superstition 137.
Ax (ai-balta) 494.
Ayivandsh, ruins of, 63.
Ayup Paigambar 413.

B.

Bâbâ-i-shauk 418.
Baba-tagh (or -tau) 59—60.
Babatagh mountains 54, 55.
Bactria, Afghan Turkestan, 7, 9, 10, 146.
Badakhshan 27.
Mountains of, 9, 10, 23, 31.
Badger 276.
Baer 154.
Bag, travelling, 479.
Baha-Eddin 406, 418.
Baiga 434.
Baissun-tau 47, 57, 60.
Routes across, 67—68.
Spurs of, 58.
Bahavadin 236.
Bakhtja ravine 57, 67.
Baki Mehemmed Khan 509.
Balakhanâh 306.
Baldshuan mountains 38.
Baldshuan, town of, 37, 38.
Balkh or Balikh, town of, 59, 366, 443, 509.
Balkhan, Great and Little, 156.
Balyk-kul, lake of, 17.
Bamian 10.
Barberry 22.
Barbers 448.
Bargin-i-firakh, lake of, 506.
Barkhans 58, 161, 162.
Bar Khorok 26.
Barley 82, 144, 495.
Bats 279.
Batshas 436.
Bazars 338, 518—533.
Butchers 531.
Galoches 522.
Gold- and silver-brocade 522.

Kitchens 523.
Knives 520.
Lanterns 526.
Men's dresses 521.
Muslin 523.
Potters 530.
Silk 523.
Smiths 524.
Turners 525.
Bears 122, 274.
Bear-leaders 434.
Beasts of burden 352—364.
Bedannah 279.
Bed-bugs 337.
Beggars 441, 450.
Beg, governor, 7.
Begs, districts of, 576.
Beikund, town of, 506, 508.
Belts 474.
Belts, woven silk, 473.
Bengal tiger 232.
Biano 146.
Bibi-kalfas 388.
Birch 88, 269.
Birindsh 460.
Bisâthe-kobbá 482.
Bitshan, mountain brook of, 48.
Blackcurrant 22, 269.
Body-guard, Circassian, 579.
Bokhara-i-Sherif, town of, 162, 502.
Age of, 508.
Area of, 510.
Bazars of, 518—533.
Canals of, 514—516.
Entrance gate of, 505.
Gates of, 514.
Name of, 506.
Order at, 561.
Ponds of, 534—544.
Public baths at, 560.
Road from the station to, 504.
Streets of, 516—518.
Bokharan guard 503.
Bokharan Hissar Mountains 5, 46—68.
Bokharan legend 339.
Bokharan Pamir Mountains 6—46.
Bokharan soldiers 116.
Bone pegs 440.
Boots 472.
Borak Khan 509.
Bossagy, town of, 3.
Bow 105, 478.
Box-kabrs 424.
Bread 332, 458.
Breast-plate 477.
Bridges 137, 348.
Bronchocele 446.
Buckles 474.
Buddhism 11, 366, 506.
Buffoon 433.
Building material 307.
Bulunkul, lake of, 8.
Bunai, pass of, 35.
Burdshes 512.
Burnes, Alexander, 12.
Busterre, pass of, 18.
Busgalla-khanáh, cleft of, 68.
Butter 452.
Butterflies 279.
Buttons 467.
Bytshak 477.

C.

Cabbage 129.
Caftan 467.
Caftans, store of, 470.
Calandars 206, 396—397, 544.
Camels 353—357.
Camels and donkeys, equipment of, 522.
Camelthorn 161, 185.
Canalisation 490.
Candlesticks 374.
Canoes 156.
Cap 468.
Carpets 204.
Carpets, from Turkestan, 86.
Carpet-dealers 206, 532.
Cataracts 112.
Caucas-i-Mercur 542.
Celtis 270.
Chaidjush 465.
Chai-khanéh 336.
Chakmak-miltyk 478.
Chalvar 472.
Chapan 471.
Chapur 506.
Châhbâgh, garden of, 554, 559.
Charjui, town of, 152, 570.
Charjui, old, 176.
Chasband 480.
Chashlîk 463.
Chaudir 404.
Cheeks, painting of, 482.
Cheese 452.
Chelpak 476.
Cherries 499.
Chewing tobacco 466.
Chigirman 458.
Childarra (Tshildarra), kishlak of, 40, 122, 123, 124.
Chimbai valley 39.
Chimneys 330.
China 10.
Chinegob 529.
Chinese bridge, remains of, 43.
Chirâk 373.
Chirâkkhanáh 414.

Chiraktshi (Tshiraktshi), oasis of, 66.
Town of, 572.
Cholera 445.
Christianity 366.
Cinnamon 452.
Clavigo 568.
Clay-walls 318.
Clematis 16, 22.
Climate 247—267.
Clod-club 494.
Cockroaches 260.
Column, Khivinian, 322.
Column, Turkestan, 322.
Communication 340—364.
Confectionery 453.
Conglomerate 173.
Conolly 337.
Conveyance, means of, 350—352.
Copper-smiths 206.
Corals (mardyan) 482, 530.
Cossacks 242.
Cotton 82, 108, 129, 144, 204, 217, 496.
Cows 111.
Cripples, congenital, 447.
Cropper 446.
Crows 120, 258, 277.
Currant 22.
Customs' soldiers, Russian, 105.

D.

Damming up 490.
Dana-shehr 187.
Dâniâr Khan 422.
Daraut Kurgan, fortress of, 41.
Darbandak, kishlak of, 36.
Dargam canal 144.
Darghan 241.
Darra Kurgavat, tributary of Pandsh, 35.
Darra-alau, source of Vandsh, 33.
Darra Tshikarv, tributary of Pandsh, 35.
Darstarkhan 456.
Darstarkhandji 456.
Darvas 11.
Glacier of, 107.
Mountains of, 6, 33, 34, 37, 38—40, 104.
Datja, name of Serafshan in Avesta, 142.
Daya Katin Kala 3.
Dehikalan, kishlak of, 48.
Denau, Deh-nau or Dehi-nau, town of, 56, 57, 152, 571.
Dengis, salt-lake of, 141, 146.
Dentistry 449.
Dentists 441.
Derbent, kishlak of, 61, 68, 76.
Derbend or Darband, tower of, 14.
Dervishes 206, 397—398, 544.
Desert Bokhara 5.
Description of, 160—170.
Formations of barkhans in, 166—168.
Sandstorms in, 164—166.
Voyage on the Amu Darya through, 173—276.
Dev or div, djin, adjin, adjinàh (adjina) 367, 450.
Deva 430.
Devannahs 398—399.
Devles pass 28.
Dihvâr 286.
Dikes 491.
Dikhan 286.
Diphteria 446.
Diseases 441—451.
Dispensary 442.
Div 367, 368, 450.
Divambegi 539.
Divan-i-Amir-i-Naivali 389.
Divine Service 383—385.
Djân Mirza Divambegi 11, 540.
Djigda 270.
Djihun 146.
Djimanias Dewân 244.
Djin 367, 368, 450.
Djin-darya, river of, 50.
Don or ton 467.
Donkey 361—362.
Doppé 203, 449, 475.
Dorré 441.
Dozbi 389.
Dress 467—485.
Children's, 484.
Women's, 479.
Drinking water 332.
Dromedaries 353—357.
Drumdarra river 17.
Drumkul or Trumkul, lake of, 15, 17.
Dshemshid 117.
Ducks 278.
Dukhan 306.
Dunes 156.
Dunghills 320.
Durra 144, 217, 229, 495.
Dushambé, town of, 45, 53.
Duzakhdarra, tributary of Tokus-bulak, 19, 21.
Dyam, kishlak of, 46, 51.
Dyumbân or Dyumban 492.

E.

Eagles 17, 277.
Earth-quakes 33, 50, 106, 135.
Ebulfeïz Khan 509.
Ebulkhair Khan 509.
Ecclesiastics 390—400.
Elburs mountains 7, 142.
Eldjik 148, 180, 181.
Elms 144.

Emeralds 530.
Emir 574.
  Army of the, 582.
  Titles of the, 580.
Emir Mâsum 509.
Emir Nasrullah 510.
Eratosthenes 9.
esh-Shirat 404.
Eye, diseases of the, 444.
Eyebrows, blackening of, 482.

F.

Faisabad, town of, 42, 45, 53.
Falanges 260.
Falcons 105, 120, 131, 277.
Fans 334.
Farab oasis 152.
Farandjé 203.
Farms 307.
Farzeaïn 389.
Fedshenko (Fetshenko) glacier 39, 136.
Ferrakh, town of, 10.
Fever 264, 446.
Fiddlers 133.
Figs 82, 499.
Fishermen 186.
Fiturak pass 46.
Flower culture 501.
Force-meat balls 461.
Fork, two-pronged wooden, 494.
Forsyth, Douglas, 12.
Foxes 276.
Frogs 279.
Fur-caftans 476.

G.

Galleries 129.
Galoches 472.
Galoches, leather, 468.
Galtshas 6, 22.
Game, favourite, 440.
Gardening 486, 498.
Gardens 316, 334.
Garm, town of, 126, 128.
  Castle at, 127.
Garm-chasma-darya 270.
Garment, winter 476.
Garmsal 255.
Garnets 530.
Gasimailek mountains 43, 54, 55.
Gaskul, lake of, 8.
Gates 318.
Gathas 362.
Geber 366.
Geese 278.
Genii 428.
Giaur Kala, ruins of, 222, 239.
Gihon 146.
Gilam 532.
Gipsies 300—301.
Giriskh, town of, 10.
Gleni-Kush pass 45.
Goës, Benedict, 12.
Gold-brocade 480.
Goldsmiths 206.
Gooseberry 269.
Gorif, upper course of Sorbukh, 44.
Gout 447.
Government 574.
Grain, alternation of various species of, 494.
Grapes 200, 205, 500.
Grasshoppers 214, 220, 261.
Guinea-pepper, 452, 501.
Gulbas mountain 44, 48.
Gul-i-Surkh-i-Baha-Eddin 420.
Gultsha 458.
Gumbas 411, 426.
Gund river 25.
  Description of, 18—19.
  Fall of, 19.
  Tributaries of, 19, 21.
  Shakhdarra, junction with, 23.
Gund valley
  Population of, 20, 22.
  Earthquakes in, 26.
  Vegetation in, 22.
  Snow in, 26.
Gur 406.
Guristân or Guristan 406.
Gusar or Husar, town of, 10, 572.
Gusar-darya, tributary of Kashka Darya, 47, 60, 66.
Guskom, pass of, 33.
Gypseous crystals 169.

H.

Hadshi 399.
Hair, smearing of, with oil, 482.
Hair-pins 482.
Hâït, village of, 132, 134.
Halal 457.
Halimodendron 150.
Halova-i-teri 463.
Hamrakul 82, 86.
Han-Dynasty 508.
Hanaká, part of Hissar, 49.

Hanki, town of, 241.
Hara Berezaïti, mountain of, 7.
Haram 279, 392, 457.
Harbob 492.
Harems 303, 326, 330—331.
Hatra 432.
Havs-i-Nau, pond of, 552.
Hazarasp, town of, 243.
Hazreti Imla 417.
Hazreti-Ishan Imle, cemetery of the Emirs, 554.
Hazreti-Mir-Arab 416.
Hazreti Palwân or Palvân 211.
Hazreti Palwân-Ata 193.
Hazreti Shah-i-Kabir 235.
Hazreti Sultan, mountain knot of, 46, 47.
Head dress, women's, in the Pamir valleys 481.
Hemp 129, 217, 496.
Henna 84.
Herat, town of, 10.
Herodotus 9.
Hiungnu 9.
Hindoos 37, 296—97.
Hippophaë 88, 150, 185, 269.
Hissar 4.
  Chain of, 47—50, 144.
  Crest of, 48.
  Mountains of, 3, 13, 46—68.
  Oasis of, fever in, 54.
  Town of, 52, 572.
Hiungnu 9.
Honeysuckle 88, 269.
Hookah 455.
Hooks 467.
Horse 357—361.
Horse-trappings 529.
Houses 303—339.
  Decoration of, 323.
  Size of, 314.
Huaida Kisseh-i-divaneh-i-meshret 389.
Huts of twigs 258.
Huyrus 386.
Hyrkana Sea 146.

I.

Ibn Batu 59.
Ice 464.
Ilek-Kafirnihan, territory between, 55.
Ilti-khanéh, palace of, 503, 505.
Imâm 391.
Imâm-Fakir Ghâsé 237.
Imankuli Khan 509.
Imân pändsh-wakt 393.
Inhabitants 281—302.
Insects 36.
Irrigation 488, 490.
Isak ben Ghasof 311.
Ischias 447.
Ishan-kul, Beg, 79.
Ishans 394.
Iskandár-darya, river of, 47.
Iskandár-Kul 49.
Ismail Samanide 369.

J.

Jackals 223, 276.
Jacket 480.
Jenghis Khan 12, 62, 229, 369, 509, 544.
Jenghisides 509.
Jerfalcons 126.
Jesus-dervishes 398.
Jews 297—300.
Jima 117.
Job, Prophet, 443.
Jugglers 434.
Juniper 22, 88, 102, 269.

K.

Kabadian 43.
Kabr or Sar-khanáh 405.
  Connection of rectangular and pointed, 424.
  Peculiar forms of, 426.
  Pointed, 407.
  Rectangular or cubical, 418.
Kadamgâ 182, 430.
Kadirshah or Kardirshah river 57.
Kaduh 233.
Kafir-Kala, fortress of, 223.
Kafirnihan
  Valley 54—55.
  River 48, 52—55.
  Town 45, 53.
Kafurvatsh or Kafurwatsh (Kafirvadsh)
  Pass of, 29.
  Tributary of Yashgulam, 32.
Kaik 181.
Kainar-bulak, kishlak of, 65.
Kalai bar Pandsh 27, 31.
  Castle at, 74.
Kalai Khumb
  Town of, 34, 113, 114, 117.
  Gardens at, 117.
Kalai Vamar, town of, 12, 28, 31, 84.
Kalai Vandsh, fortress of, 33, 34.
  Town of, 103, 104.
Kalapush 468.
Kalmuks 198, 236.
Kalta-kul river 48.
Kalta-tau, spurs of Samarkand-tau, 48.
Kamaran-su, tributary of Sorbukh, 44.

Kamarband 473.
Kamtshirak pass 125.
Kamish-togais 243.
Kandahar, town of, 10.
Kâplân, palace of, 554, 556.
Kara chai 464.
Kara-darya river 145.
Karakalpaks 152, 230, 242, 295—296, 428.
Karakirghiz 128, 134.
Karakul
  Lake of, 7, 8.
  Oasis of, 146.
  Town of, 572.
Kara Kum, desert of, 3, 161.
Kara-kush river 58.
Karakush-khanâh 132.
Karaman, market-place of, 218.
Karamuk 2.
Karanga Kul, salt-lake of, 146.
Kara-oi 226, 322.
Karashmishah 227, 229, 236.
Karatagh mountains 47.
  Town of, 49, 572.
Karategin 11, 40, 128, 129, 486.
Karateginians 125.
Karatsha 48.
Karaul-tau, hills of, 162.
Karbus 497.
Kard 520.
Kargoshy Pamir mountains 8.
Kari, palace of, 554, 559.
Karnap chul 160.
Karshi
  -Bokhara, route of, 564.
  -Kerki, route of, 566.
  Oasis of, 67.
  Town of, 10, 497, 562.
Kasaks 187, 233, 239.
Kasaktau mountains 3.
Kashka Darya
  River, 64—67.
  Sources of, 65.
Kasi or Kâsi 393.
Kasi-kalân 391.
Kaska-su, river of, 139.
Kasyal Ayak, pass of, 33.
Katta Karamuk
  Mountain knot of, 41.
  River of, 138.
Katta Kurgan, town of, 3, 143.
Katta-urun-darya, source of Gusar-Darya, 66, 67.
Kaün or kaun 233.
Kaurdak 463.
Kausga pass 44.
Kaush 468.
Kavakly, oasis of, 183.
Kebâb 463.
Kelif
  Ferry of, 64.
  Remains of bridge near, 148.
  Town of, 61, 62, 572.
Kelif-darya river 61—62.
Kendir 496.
Kerki, oasis of, 3, 159, 567.
Kermineh
  Altitude of, 143.
  Oasis of, 145.
  Town of, 143, 571.
Khan of Khiva 199.
Khanabad, kishlak of, 37.
Khanaka 392.
Khanake-darya, tributary of Kafirnihan, 53.
Khari-shutur 500.
Kheradshi 489.
Khingau
  Mountains of, 39.
  Tributary of Surkhab, 33, 37, 41, 120.
Khiva
  Coinage system of, 204.
  Cultivated plants in, 217.
  Divambegi of, 195, 198.
  Divambegi Palwân Murad of, 217.
  Medresses in, 208, 210.
  Mosques in, 208.
  Judicial proceeding in, 225.
  Official in, 194.
  Palaces in, 213.
  Rings in the nose in, 225.
Khodsha Hafis 389.
Khodsha-kainar, range of, 61.
Khodsha Khubedun, pass of, 40.
Khodsha-mastam mountains 42, 43, 55.
Khodsha Nazar, pass of, 19.
Khodsha Tyshabé 417.
Khodsha Yandy, burial ground of, 552.
Khodshely, town of, 223, 226.
Khorok
  Village of, 13, 23, 70.
  Women from, 71.
Khotl, realm of, 42.
Khovaling
  Town of, 37.
  Upper course of Kitshik Surkhab, 38.
Khudayar Khan 41, 139, 510.
Khumbai river 118.
Kibitke 226.
Kiblâh 373.
Kilidsh or kylydsh 478.
Kiptjak or Kiptshak, town of, 222.
Kirghiz 20, 37, 40, 45, 115, 135, 136, 137, 150, 187, 242, 293—95, 390, 476, 509.
Kirr-adsh-Kirr 179.
Kirr-tau, part of Samarkand-tau, 48, 51.
Kishlak or Kishlâk, village, 4.
Kisht-Kala, fortress of, 183.
Kitab, town of, 65, 569.
Kitab-Fazuli 389.
Kitchen 331, 333.
Kitshik Alai mountains 43.
Kitshik Karamuk
  Aul of, 137.
  Mountain knot of, 41.

Kitshik-Surkhab, river of, 38.
Kitshik-urun-darya, source of Gusar Darya 66, 67.
Kivekaes I.
Kiyik 122, 274.
Kizil Kum, desert of, 3, 57, 161.
Kizil-su, Turkish for Surkhab, River of, 37, 41, 126, 135.
Kobbá 375, 402.
Kohik, Persian for Serafshan, 142.
Koikuibel river, tributary of Vartang, 28.
Koitjesek, pass of, 19.
Kokait, fortress of, 59.
Kokbai, source of Shakhdarra, 14.
Kokbai-kul, lake of, 17.
Koksu, river of, 135.
Kona Urgendtsh, town of, 228.
Kosroës 506.
Kshirr pass 49.
Kshut, tributary of Serafshan, 47, 48.
Kuh-i-Kalan or Kuh-i-Kalân 107.
Glacier of, 107.
Mountain of, 76.
Kuh-i-surkh 48.
Kulab, town of, 36, 37.
Kulab-darya, same as Aksu, 38.
Kul Mâhi, lake of, 67.
Kum-Balkhi, desert of, 63.
Kumysh 227, 452.
Kundus-darya river 5.
Kungur-tau hills, 52,
Kurbân Nâmas 384.
Kurgan, fortress of, 139.
Kurgan-tubé, town of, 42, 43.
Kurgavat, kishlak of, 109, 110.
Kus 146.
Kuteïbe-bin-Muslim 366, 506, 508.
Kuyu-ishrab, ferry of, 64.
Kyz-kavu 440.
Kök chai 464.
Kök Tash 144.

L.

Labihavs-i-Divambegi 448, 541, 542.
Lâisu, source of Âb-i-Zanku, 135.
Lagari-murda, pass of, 67.
Lakay or Lakhé 301.
Langarkish, village of, 2, 13, 20.
Language 281—302.
Lanterns 526.
Lapis lazuli 474, 530.
Lapsha 446.
Leprosy 445.
Lipsky, Russian explorer, 41.
Liquid dishes 454.
Liquor, intoxicating, 465.
Lissan-ut-teïr 389.
Lizards 36, 187, 280.
Localities, cultivated, in the mountains, 487.
Loess 145, 170—173.
Lucerne, or luzerna, 82, 129, 144, 217, 495.
Lungi 473.
Lynx 276.

M.

Maderaun, kishlak of, 32, 94.
Madrassa 378.
Maghian, tributary of Serafshan, 47, 48.
Magpie 258, 277.
Mâhi 457.
Mahrem 492.
Mail, shirt of, 477.
Majolica 382.
Makhram 491.
Makruh 392, 457.
Mak-sure-khan 385.
Mamlakat 489.
Mangit, house of, 509.
Mantuy 462.
Maple 269, 270.
Maracanda, town of, 142.
Marco Polo, Venetian explorer, 12, 509.
Mardyan, coral, 9.
Mardyanai, pass of, 29.
Mardyvaliat 492.
Margiana 9.
Marmots 120, 276.
Martens 277.
Mashit 124, 201, 378.
Mashit-i-Gaukshan 552.
Mashit-i-Kalân 208, 416, 542, 544.
Mashit-i-Kalân, font at, 546.
Mashit-i-Khodsha 552.
Mashit-i-Labihavs-i-Mir-Dostum 551.
Maslak-al-Mutakin 389.
Mas pass 16.
Matsha district 143.
Matsha mountains 46.
Matchlocks 477.
Mavaralnahr 148.
Mazar 430.
Mazar-i-sherif 59.
Measles 445.
Meat 452.
Medicine-men 441.
Medicine-vendors, native, 449.
Medresses 385—387.
Medresse-i-Abdullah Khan 551.
Medresse-i-Juibar 552.
Medresse-i-Labihavs-i-Divambegi 541.
Medresse Kökel-Tash 552.

Medresse Mader-i-Abdullah Khan 551.
Medresse-i-Mullah Nasr 552.
Medresse-i-Nakib 552.
Medresse-i-Topshi Bashi 552.
Medresse Tatju-Ajim 552.
Mehemân-Khanâh 288.
Mehrab 373.
Mekruh 279.
Mektab 378, 387—390.
Melons 129, 144, 205, 217, 497.
Meshit-i-Bala-i-Havs 540.
Metebly, town of, 3.
Miane 386.
Mian-kal or Mian-kul, oasis of, 145.
Middendorf 172.
Milk (or mulk) 489.
Milk boys, 533.
Milk-kheradsh 489.
Milk-ur 489.
Mill 109, 458.
Millet 82, 129, 496.
Miltyk 477.
Mir 69.
Mir-âb 491.
Mir Arab, medresse of, 542, 548.
Mirshab 194, 477.
Mirzas 210.
Mirza Abdul Khader (or Kader) Beg 113.
Mirza Ulug Beg 386.
Mirza Bidil 389.
Mohamed Shah of Kharesm 509.
Mokanna 368.
Mole-crickets 260.
Moon-rings 267.
Moorcroft 12.
Moraines 95.
Mosques 370—382.
Mosquitoes 36, 178, 240.
Mountain Bokhara 5.
  Description of, 6—68.
  Journey through part of, 68—140.
Mountain panther 22, 275.
Mountain Tadjiks 22.
Mudarris 386.
Mukhau, méhau or makau, 445, 446.
Muksu valley 136.
Mulberries 75, 108, 129, 193.
Mulberry-tree, 499.
Mullah-jalah 386.
Mullah-jalal 386.
Mullahs 210.
Munshi Abdul Subhan 13, 74.
Mura pass 46, 49.
Murghab river, middle course of Vartang river, 13, 28.
Murkhan, ravine of, 118.
Music 456.
Mussaffar-eddin 510.
Mussaffar Eddin Abdul Khan 150.
Mussa-basar, kishlak of, 50.

N.

Nadir Shah 62, 148.
Naiguf, kishlak of, 35.
Naisatash, pass of, 8, 18.
Nakishbendi 419.
Nâmas 225, 376.
Nandagan, ravine of, 61.
Narcotics 452, 465—466.
Narkish-Kala, fortress of, 182.
Narshakhi 508.
Nasr Mehemmed Khan 509.
Nasrullah 538.
Naurus 367.
Necklaces 482.
Nemets, kishlak of, 131.
Neuhaus 174.
New Bokhara, town of, 502.
Nightingale 278.
Nogais 242.
Non 458.
Non-Ziyafat 385.
Nos-kaduks 464, 465.
Nura-tau mountains 3.

O.

Obi-Dikhan or Obi-Dikhan-darya, source of Surkhan-darya, 55.
Obi-taghasan chain, 48.
Odudy, glacier of, 83, 90.
Odudy, pass of, 29.
Officials 574.
Oindjé 214.
Old wise women 450.
Opals 530.
Opium, drinking of, 465.
Opium-smoker 465.
Orchards 498.
Ormuzd 203.
Otter 277.
Over-trousers 472.
Ovis Karelini 273.
Ovis Poli 122, 272.
Oxiana palus 141.
Ox-tails 241.

P.

Paddle-steamers 174.
Pakshif pass 43, 44.
Pallast 532.
Pamir 4, 7.
Pamir, knowledge of, 9—14.
Pamir, travels in, 9—14.
Pamir Darya 2.
Pandsh river 75, 76, 77, 82, 83, 112.
Pandsh river:
  Description of, to Kalai Vamar and Vartang 26—28.
  Description of, from Kalai Vamar to Kalai Khumb, 30—31.
  Description of, from Kalai Khumb to the Vakhs, 35—38.
  Population of valley of, 31.
  Tributaries of, 27, 37.
  Valley of, 27, 30—31, 33.
Pandshbegi 492.
Pandshakent, town of, 143.
Paravanatshi 128.
Parsee religion 367.
Partridge 278.
Patk, knot of, 31.
Patta-hissar or Patta-gusar, ferry of, 59, 62.
Patta Kum, desert of, 57.
Peach 129, 200, 205, 499.
Peak Zaritza Maria 14.
Pear 22, 82, 129, 269.
Persian, dialects of, 78.
Pest Kadam 386.
Periokhtau 29.
Peter the Great or Periokhtau, glacier of, 6.
Petro Alexandrowsk, town of, 3, 189, 242.
Pheasants 36, 150.
Physicians 441, 449.
Pies 446.
Pigeons 120.
Pik Kaufmann 41.
Pik Nashpurkamtsh, peak of, 39.
Pillau 460.
Pistachio 129, 269, 270.
Pir 393.
Pirân 467.
Plants, cultivated, 486, 495—501.
Platanes 144, 270.
Plough (sabân) 494.
Pockets 467.
Polytimetus, same as Serafshan, 141.
Pomegranates 104, 110, 499.
Poplars 88, 144, 269.
Poppies 496.
Porushaspa, father of Zarathustra, 142.
Poultry 111.
Preventatives, superstitious, against all kinds of sickness, 449.
Prisons 303, 336.
Proverb, Bokharan, 468.
Ptolemæus 9.
Prayer-carpets 373.
Public kitchens 334.
Public readers 434.
Pul-i-sangi, bridge across Surkhab-Vakhs, 42.
Pumpkins 144, 497.
Pyramidical poplar 22.

Q.

Quick-sand 5, 107, 161.
Quyi Hauli, palace of, 554, 556.
Quince 129, 499.

R.

Racés 281—302.
Railway 340.
Raïs 204, 391—392, 492.
Ramankul Inâk 246.
Ramasan 385.
Ramatin 506, 508.
Rang 13.
Rangha, see Syr Darya, 7.
Rangkul, lake of, 7, 8.
Raspberries 23, 269.
Raumit-darya, source of Kafirnihan, 52.
Rebi-Ibn-ul-Harith 366.
Red-shanks 278.
Redshfendun 506.
Reed-kabrs 424.
Regar, town of, 56.
Reinhardt, Peter, 442, 503.
Religion 365, 370.
Religions:
  Avesta 7, 142, 362.
  Buddhism 11, 366, 506.
  Parsee 367.
  Shiites 369, 406.
  Sunnites 369, 406.
Rhasta 203, 306, 338.
Rhasta Sergeran 529.
Rheumatism 447.
Ribâb 438, 439.
Rice 144, 217, 495.
Richthofen 172.
Rickets 447.
Riding animals 352—364.
Rigistan 536.
Rings, finger, 474.

Rishta 442.
River-crossings in the level country 349—350.
Roads:
  Desert, 345—346.
  In the level country, 342—343.
  In the oases, 347—349.
  Mountain, 343—345.
  Steppe, 346—347.
Roller 258, 277.
Roses 22, 102, 269.
Roshan 26.
Roshan mountains 29, 90.
Royal tiger 274.
Rubies 530.
Rud-i-Chapurgam, canal of, 506.
Russian paddle-steamers 158.
Rustems Pialal 416.

S.

Saddle-bags 529.
Saddlers 206, 528.
Saghnau river 46.
Sagrydasht, pass of, 39, 118, 120.
Saïd or Saït 394.
Saït Abdul Akhad (Achad) 12, 175, 510.
Sakes 142.
Sakh-ob pass 48.
Sallá 468.
Salomon 117.
Salt 495.
Salt-fields 5.
Salt steppes 160.
Samarkand-tau mountains 3, 48, 50—52.
Samtsha or sandalak 233.
Sanatsh or Sanaâtsh 80.
Sanbusy 462.
Sandthorn 269.
Sanganaktji 48.
Sang-gardak, tributary of Surkhan, 57, 60.
Sarda-i-miona, source of Kafirnihan, 48, 52.
Sardym, kishlak of, 18.
Sarf 386.
Saripul, kishlak of, 38.
Sary-assiya, town of, 56.
Sary Kamysh 159.
Saryjui, town of, 56, 67.
Sashar, kishlak of, 72.
Sassanides 432, 506, 508.
Sassikkul, lake of, 8.
Savistan-tau 39, 42.
Saxaoul 161.
Scorpions 24, 36, 131, 260.
Scythians 142.
Seal 530.
Seïd Haidar Töre 510.
Seili-Gul-i-Surkh 420.
Seïs, kishlak of, 16.
Seistan 104.
Seït Esfendier tura 200.
Selam 539.
Sengir-bulak, kishlak of, 46.
Sepulchral Chambers 432.
Serafshan:
  Mountains of, 3, 144.
  Oasis of Bokhara on, 145.
  Rise of, 143.
  River of, 4, 141, 487.
  Tributaries of, 144.
Serais 302.
Serai Abdullah-Khan 560.
Serai Birindsh 560.
Serai Gelimjan 560.
Serai Hazreti Amir 560.
Serai Hindi 560.
Serai Tamakú 560.
Serpents 279.
Sesame 495.
Shah Abbas of Persia 509.
Shahar or Shahar-i-Sebbs, town of, 5, 65, 567.
Shahar-i-Gulgula, ruins of, 58.
Shahr-shahr 48.
Shaitan 367.
Shakhdarra river:
  Description of, 14—15.
  Fall of, 14.
  Valley of, 15—17, 22, 26.
  Lakes near, 17.
  Bridges on, 18.
Shamghun Paigambar 227.
Shariat 489.
Shawl 482.
Sheibanides 509.
Sheik-i-Sharab 237.
Sheiks 392—393.
Shehrbedén, palace of, 554, 558.
Shibargan, town of, 62.
Shield 477.
Shiites 369, 406.
Shikai, fortress of, 37.
Shirabad or Shehr-abad, town of, 60, 61, 572.
Shirabad-darya river 60—61.
Shirbirindsh 461.
Shirgavat, pass of, 35.
Shirin 463.
Shitkar, pass of, 15.
Shiva lake 73.
Shiva plateau 73.
Shoes 480.
Shubheh 392.
Shugnan 27.
Shugnan, Roshan, Darvas and Karategin, journey in, 68—140.
Shumrakhna 48.
Shurpa 461.
Shuryan, rock-salt in, 54.
Shutur pass 49.
Siah-kuh or Siyak pass 56.

Siaposh 305.
Sibilisha 446.
Sick, the, 441.
Sigdi-darya, tributary of Kafirnihan, 53.
Silk culture 144.
Silkworm 499.
Silou 393.
Silver cylinders 482.
Sindan 336.
Sir-Khorok, village of, 23, 24.
Sledges 125.
Small-pox 444, 445.
Smith 528.
Smock 479.
Snakes 36.
Snipe 278.
Sogd or Ssughdha, same as Bokhara, 7.
Sogdiana 9, 146.
Solotsky, Captain, 68, 69.
Sorbukh, tributary of Surkhab, 41, 44—45.
Sorkul or Victoria Lake 8.
Soups 454.
Spiders 36, 178, 280.
Spring 250—253.
Springs 333.
Sseltau 39.
Ssipar-Hamadan, pass of, 38, 39.
Staramâkâsá, palace of, 554, 556.
State-prison (sindan) 538.
Steppe Bokhara 5, 141—159.
Steppe wolf 275.
Stilt-plovers 246, 278.
Stockings 473.
Stoddart 337.
Storks 278.
Strabo 9.
Straw-fan 259.
Street-preacher 399.
Struma 84, 108, 260.
Su 170.
Subhankuli Khan 509.
Süd 461.
Sughdha 142.
Sultan-bâbâ, mountains of, 222, 239.
Sulumart mountains 43.
Summer 253—263.
Sundukly, oasis of, 146.
Sunflowers 108.
Sungur Kul, salt-lake of, 146.
Sunnism 369.
Sunnites 406.
Surgical treatment 442.
Surkhab-Vakhs river 41, 126, 130.
Surkhab-Vakhs valley, population in, 45.
Sulumart mountains 43.
Surkhan-darya, last tributary of Amu-Darya, 55—59.
  Length and fall of, 55.
  Valley of 58.
Surnai 438.
Sussi Karatau mountains 3.
Sutshan:
  River of, 14, 23.
  Valley of, 26.
Sweets 463.
Syphilis 446.

T.

Tadjiks 20, 31, 34, 35, 37, 45, 52, 74, 80, 84, 89, 108, 110, 124, 128, 134, 135, 242, 284—290.
Tadjik prince 120.
Tadjik shepherds 88.
Tairdy mountains 62.
Tair-su mountains 39.
Taïzib 386.
Takhta-karatsha pass 51.
Takhta-korum, pass of, 29.
Taldyk, pass of, 139.
Tamarisk 161, 180, 182, 226, 240, 268.
Tambourine-beaters 438.
Tamburr 439.
Tamerlan 183.
Tanab or Tanap 202, 491.
Tanymas river, tributary of Vartang, 28.
Tarantulae 260.
Tash-kalam, ravine of, 68.
Tash-kurgan, fortress of, 28, 63.
Tash-havly 213.
Tea-dealers 206.
Tebbad 256.
Tekarvi, pass of, 35.
Tekke-Turkomans 196.
Tenga-qoram, kishlak of, 67.
Termedh, ruins of, 58.
Termez 509.
Tevildarra, kishlak of, 40.
Tevildarra, pass of, 119, 120.
Tiger 36.
Tim-tau 48.
Timur 62, 148, 369, 509.
Timurides 509.
Titles 578.
Tobacco 82, 108, 129, 144, 217, 465, 497, 520.
Todeva Khan 236.
Togais 222.
Tokele-tjokt, source of Shakhdarra, 14.
Tokh 401, 513.
Tokus-bulak, tributary of Gund, 14, 17, 19.
Tomatoes 500.
Tombs 202, 401—432.
Topandsha 478.
Tortoises 36, 280.
Tower of the Dead 416, 512, 548.
Towns 502—573.
Town-walls 318.
Transport 340—364.

Treasury 326.
Trombones 374.
Trousers 467, 481
Tshak 490.
Tshâr-Kitab 389.
Tshashma Hafisan 68.
Tshashma or Tshesme, ravine of, 67.
Tshiraktshi or Chiraktshi, oasis of, 66.
Tshorab-darra, river of, 38.
Tshushka-gusar, ferry of, 62—64.
Turaly Djilga, tributary of Shakhdarra, 15.
Turban 468.
Turkestan range 144.
Turkomans 37, 295.
Turners 525.
Turnips 129.
Turpak 170.
Turpak Kala 3.
Turpalan, tributary of Surkhan, 56.
Turquoises 530.
Turumtai-kul, lake of, 15, 17.
Tuskul, lake of, 8.
Tut-kaul 42.
Types 281—302.
Typhus 446.
Tyubek, kishlak of, 36.

U.

Uiguric kings 509.
Ukhri 489.
Ulkhun-tagh mountains 65.
Usbegs 37, 45, 55, 59, 128, 150, 181, 202, 230, 242, 290—293.
Ütsh tepé 187.
Uzun Minar 200, 208.

V.

Vakhan 12, 20.
Vakhs mountains 39, 40.
Vakhs river 40—46.
Rise of, 40.
Vakhs, tributaries of, 43.
Vakhshu or Vakshu 146.
Vakuf 489, 491.
Vandsh glacier 95.
Vandsh mountains 6, 34, 104.
Vandsh, outlet of, 34.
Vandsh river 32, 33, 102, 107.
Vandsh river, bridges on, 34.
Vandsh river, tributaries of, 34.
Vartang river 13, 28—30, 80.
Vegetation 268—271.
Acacias 144.
Almonds 82, 270, 500.
Ammodendron 169.
Apples 22, 82, 129, 200, 205, 269, 499.
Apricots 82, 108, 129, 193, 200, 269, 308.
Asp 269.
Barberry 22.
Barley 82, 144, 495.
Birch 88, 269.
Birindsh 460.
Blackcurrant 22, 269.
Cabbage 129.
Camelthorn 161, 185.
Cherries 499.
Clematis 16, 22.
Cotton 82, 108, 129, 144, 204, 496.
Currant 22.
Djigda 270.
Durra 144, 229, 495.
Elms 144.
Figs 82, 499.
Gooseberry 269.
Grapes 200, 205, 500.
Guinea-pepper 452, 501.
Halimodendron 150.
Hemp 129, 496.
Hippophaë 88, 150, 185, 269.
Honeysuckle 88, 269.
Juniper 22, 88, 102, 269.
Lucerne 82, 129, 144, 217, 495.
Maple 269, 270.
Melons 129, 144, 205, 217, 497.
Millet 82, 129, 496.
Mulberries 75, 108, 129, 193, 499.
Peach 129, 200, 205, 499.
Pear 22, 82, 129, 269.
Platanes 144, 270.
Pomegranates 104, 110, 499.
Poplars 88, 144, 269.
Poppies 496.
Pumpkins 144, 497.
Pyramidical poplar 22.
Quince 129, 499.
Raspberries 23, 269.
Rice 144, 495.
Roses 22, 102, 269.
Sandthorn 269.
Saxaoul 161.
Sesame 495.
Sunflowers 108.
Tamarisk 161, 180, 182, 226, 240, 268.
Tobacco 82, 108, 129, 144, 217, 465, 497, 520.
Tomatoes 500.
Vermuth bushes 63.
Vetches 496.
Walnuts 82, 129, 269, 308.
Water-melon 497.
Wheat 82, 144, 495.
Wildbriar 269.

Wild mulberry 269.
Wild roses 88.
Willows 88, 102, 269.
ehrud 148.
eranda 312.
erdan-Khudat 506.

lnuts 82, 129, 269.
lnut-tree 308.
ter, distribution of, 491.
aterfalls 112.
Vater-melon 497.
Veasels 277.
Vheat 82, 144, 495.
Vild boar 36, 150, 277.

âkh 464.
aghnob river 46, 47.
aghnob valley 44, 48.
akkabagh-darya river 66.
akkabagh, town of, 67.
ak-ox 363—364.
arkhitsh glacier 143.
ashgulam river 29, 31—32, 33.
Bridges on, 32.

anku 134.
arathustra, see Zoroaster, 142.
ia-eddin, town of, 573.
ir-i-Zamin, ravine of, 14.

Verekhsheh 506.
Veneric diseases 191.
Vermuth bushes 63.
Viadme 146.
Vorukasha 362.

W.

Wildbriar 269.
Wild cats 277.
Wild mulberry 269.
Wild roses 88.
Willows 88, 102, 269.
Winter 265—267.
Wood, John, 12.
Women's finery 529.

Y.

Yashgulam valley 96.
Yashgulam valley, population in, 94.
Yashilkul lake 2, 8, 25.
Yashmashit 379.
Yoemantal 8.
Yomut 186, 230, 240.
Yuetshi 9
Yurtshi, town of, 56, 57, 67.

Z.

Ziyafat 434.
Zoroaster 365.
Zoroaster, doctrine of, 124.

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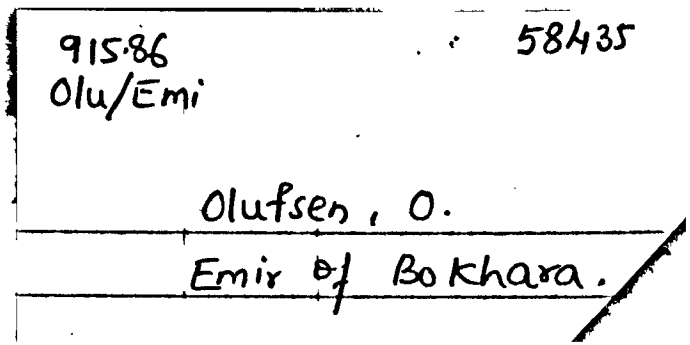

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